# MONTHLY BULLETIN

# OF AGRICULTURAL INTELLIGENCE AND PLANT DISEASES

INDEX

1913



#### PREFACE

This index, though arranged alphabetically, retains the grouping of the subjects used in the *Monthly Bulletin*. The arrangement of the subjects in each group is in chronological order of publication, except in the case of those relating to Agricultural Development, where the alphabetical arrangement was considered more useful.

Except in the case of the original articles, which are numbered according to their pages, the numbers of each subject refer to the paragraphs in the *Monthly Bulletin*.

The index consists of three parts: one, of the original articles, one concerned only with Agricultural Intelligence and the last with Plant Diseases.

This volume of contents has been prepared by the redacteurs Dr. Giulio Provenzal and Prof. Giulio Trinchieri,

### THE INTERNATIONAL INSTITUTE OF AGRICULTURE

The International Institute of Agriculture was established under the International Treaty of June 7th, 1905, which was ratified by 40 Governments. Thirteen other Governments have since adhered to the Institute.

It is a Government Institution in which each Country is represented by delegates. The Institute is composed of a General Assembly and a Permanent Committee.

The Institute, confining its operations within an international sphere, hall:

- a) Collect, study, and publish as promptly as possible, statistical, echnical, or economic information concerning farming, vegetable and aninal products, the commerce in agricultural products, and the prices revailing in the various markets.
- b) Communicate to parties interested, also as promptly as possible, he above information.
  - c) Indicate the wages paid for farm work.
- d) Make known new diseases of plants which may appear in my part of the world, showing the territories infected, the progress of he diseases, and, if possible, the remedies which are effective.
- e) Study questions concerning agricultural co-operation, insurnce, and credit in all their aspects; collect and publish information which ight be useful in the various countries for the organisation of works needed with agricultural co-operation, insurance and credit.
- f) Submit to the approval of the Governments, if there is occasion it, measures for the protection of the common interests of farmers and the improvement of their condition, after having utilized all the nessary sources of information, such as the wishes expressed by internamal or other agricultural congresses, or by congresses of sciences applied agriculture or agricultural societies, academies, learned bodies, etc.

```
Pice President, N. Livin-Due, Ecopete a France.
List of the Belegates of the Permanent Committee:
                                                                                   Dr. T. Mintim, Privy Councillor.
Dr. Octavo Priving Scentos.
Cher. V. R. Pozzi, Octavorningh Councillor.
E. Mintés. Sec. of. State, Member of House of Magnates.
O. Bolli.
           CHEMANY
     2 ABGENTUE REPUBLIC.
3. AUSTRIA
4. HUNGARY
    5. BELGIUM
    6. BRAZIL. ...
                                                                                   ANTONINO FIALHO, Ex-Deputy.

D. RIZOPP, Minister Plenipotentiary.

S. ALBUMATE, Minister Plenipotentiary.
  8. CHILE
9. CHINA
10. COSTA-RICA
11. CUBA
12. DENMARE
                                                                                   S. ALBUNATE, Minister Plenipotentiary.
Siu-Kiu.
R. Montalegre, Minister Plenipotentiary.
                                                                                  A. B. OLSENBURG, Charge d'affaires.
Dr. MEHIND DISMI, BRY,
B. CEMMINE, Senator.
S. ALBUMYS, Designate of Chile.
ENERGUE ROUBEULE. BE CELLE, Agricultural Engineer.
DAVIS LUIN.
Prof. G. CUEGNI, Director, Station of Plant Pathology.
BORNE.
   13. OTTOMAN EMPIRE
  17. UNITED STATES .
  18. ASTESINIA
                                                                                  kome.
Louis-Dop. Vice President of the Institute,
Louis-Dop.
  19. FRANCE
 LOUIS-DOP.
LOUIS-DOP.
SIT STANKY OLIVIER, SECRETARY Of the Board of Agric.
SIT STANKY OLIVIER.
SIT SYNNET OLIVIER.
SIT STENCY OLIVIER.
OLIVIER.
SIT STENCY OLIVIER.
SIT STENCY OLIVIER.
OLIVIER.
OLIVIER.
OLIVIER.
OLIVIER.
CHAMBER, SERALOT.
B. CHEMBER, SERALOT.
B. CHEMBER, SERALOT.
OR BOLLE, Delegate of Belgium.
OL ALESTEVA, Minister Pienipotentiary.
V. E. BIANCHI, CONSUL General.
Dr. A. FIRESTAR, Agricultural proprietor.
PROF. OLIVIER, Delegate of BENTOM.
BATOM W. B. R. de Wildbern RENGES.
LOUIS-DOP, Delegate of France.
A. BEL GALLO, MARQUIS OF RECCASIONINE.
AMENDA ARTHUE BE LEARN, ARTICULTURAL Engineer.
DEMTRIUE C. PENNESCO, COURSEIDER Of RUSSIA.
HIS EXCELL I. LUZZITI, Minister of State.
                                                                                   Long-Dog
21. TUNIS
22. UNITED KINGSOM
23. AUSTRALIA
24. CANADA
25. BESTOR INDIA
36. NEW ZEALAND
37. MAURITUS
38. UNION OF SOUTH AFRICA
26. GERECA
39. GUITEMATA
30. GUATEMALA
31. ITALY
ol. ITALY
32. ERITREA & IT. SOMAL.
23. TRIPOLI AND CIRENAICA
34. JAPAN
   35. LUXEMBURG
 PERSIA
         ROUMANIA
        RUSSIA
SALVADOR
                                                                             His Excell L. Luzzatti, Minister of State.
C. Scotti, Consul General of Servia.
Baron C. N. D. of Billy, Minister Plenipotentiary.
J. B. Propa, Minister Plenipotentiary.
Dr. E. Ryuna, Vice-Coneui.
         SERVIA . . .
·Prof. Olevanni Lorenzoni, General Secretary.
```

## EDITORIAL STAFF OF THE BUREAU OF AGRICULTURAL INTELLIGENCE AND PLANT DISEASES

Chief of Bureday: Dr. A. Hermes.
Chief of Section: Dr. Jules M. Saulkher.
Rédacteurs: Prof. A. Bruthill, Chief Rédacteur. C. J. Alexander, B. Sc. (Agric).
N. W. Barrit, B. A. Dipl. Agr. Camb. J. Berninger, Ingénieur Agronome. Dr. Theo.
Book Bieler. Dr. Guido Bookhermi. Dr. Ville se Tivol. Dr. Leo Garrit, Jespe
Gladures, Ingénieur-Agronome. F. Gerter, Ingénieur-Agronome. W. Kebli, Diplom Ingénieur
L. Pracosca Pracazoli. Dr. Guildo Persexall. A. Rulle Atoli, Ingénieur-AgVienne. G. Schaffer, Ingénieur-Agronome. Prof. Giuldo Tenchers.
Enniet G. Schaffer, Ingénieur-Agronome. Prof. Giuldo Tenchers.
Enniet G. Schaffer, Ingénieur-Agronome. Prof. Giuldo Tenchers.
Franslators: Mine Y. M. Joseft. M. Bate. A. Risher de Roccht.

#### CONTENTS

Preface	Page
I. — Index of Original Articles	. » '
II. — Index of Agricultural Intelligence:	* :
A) Subjects	» I;
B) Authors	<b>&gt;</b> 5
Y	
III. — Index of Plant Diseases:	
A) Subjects	» 6
B) Authors	» 8

# I - INDEX OF ORIGINAL ARTICLES

AREMANDER E. O. - The Recent Development of Cattle Breeding in Sweden, page 1502.

BASTHEL CHR. - Recent Work of the Bacteriological Section of the Central Agricultural Experiment Station at Experimentalfället, near Stockholm,

page 1478.

BARTOLOMMEI GIOLI GINO. - The Study of Colonial Agriculture in Italy.

page 1135.

ERLESE ANTONIO. - The Control of the Japanese Fruit Scale (Diaspis pentagona) in Italy, page 697.

iersch Wilhelm. -- Moor Cultivation in Austria, page 1672.

BLARINGHEM L. - The Progress of Cereal Seed Selection in France, page 971.

lordiga Oreste. - The Problem of Irrigation in the South of Italy and in Sicily, page 827.

ORGES J. F. - Present State of Forestry in Portugal, page 989.

ORRIGHMENT IN R. - The Agricultural Meteo-

ornstein R. - The Agricultural Meteorological Service in Germany, page 1667.

ACCI F. - The Present State of Oilve Growing in Italy, page 1496.

own Edward. - The Poultry Industry n Great Britain, page 673,

CAZOS P. A. - The Cultivation of Polatoes under Irrigation in the Neighbourhood of Athens, page 501.

COPPET MAURICE. - The Distribution of Forests in the Natural Regions of Switzerland, page 1822.

DUNSTAN WYNNHAM R. - The Work of the Imperial Institute for the Economic Development of the British Colonies and India, page 1803.

Enler P. - Agricultural Plant Breeding in Germany at the Present Day, page 983.

ERIKSSON JAKOB. - Work of the Phytopathological Section of the Central Agricultural Experiment Station in Stockholm in 1912, page 1005.

FISCHER GUSTAV. - The Present State of Motor Cultivation in Germany, page 852.

FRUWIRTH KARL. - The State of Agricultural Plant Breeding in Austria, page 978.

GORINI COSTANTINO. - The Manufacture of Butter and Cheese with Culture Starters in Italy, page 514.

GROSS EMANUEL. - Elements for the Valuation of Fruit Trees, page 1819.
HANSEN, - The Recent Development of

Cattle Breeding in Germany, page 8.

HAYDUCK F. - The Development of the
Dried Yeast Industry in Germany,
page 692.

HITTCHER. - Recent Experience and Progress in Dairying in Germany, page 1826.

Humphries A. E. - Wheats from the British Millers' Point of View, page 1164.

KERPELY COLOMAN. - Results of Drilling Manures in Hungary, page 1696. KOVACSY BÉLA. - Sheep Breeding in Hungary, page 680. KRARNER H. - The Present State of the Cheeses in Green, with regard in Question of Inbreeding in Germany, page 4150, 15 KUBELKA AUGUST. - The Selection System in Forest Economy, page 1688. LARSEN H. C. - Organization of Field Experiments in Denmark, page 1479. LAUR ERNST. - Measures adopted in Switzerland for the introduction of Agricultural Book-keeping into the Peasants' Farms, page 13. LEMMERMANN. - The Possibility of Replacing Stassfurt Potash Salts by Pinely ground Phonolite, Leucite, etc. page 1483. Löhnis F. B. - The Administrative Measures taken in Holland in Favour of Cattle Breeding, page 667. LONYAY FRANÇOIS (DE). - Viticulture in Hungary, page 1142. LOPEZ SANCHEZ EMILIO. - The Various Methods of Farming in Spain, page LORGUS A. - Progress and Results in Pruit-Growing in Germany, page 306. MACOUN W. T. - The Present Status of

the Fruit Industry of the Dominion of Canada, page 1812. MAURIANC ANDRÉ. - Report out the Diseases observed at the Phytopathological Laboratory of the National Mu-

seum of Rio Janerio, page 858. Morez Henrique. - The Present Condition of Agricultural Meteorology in Brazil, page 1313. NAMESON M. L. - Measures adopted in

Sweden to spread Book-keeping

among Farmers, page 173. NILSSON-EHLE H. - Improvement of Wheat and Oats at Svalot, page 844. NILSBOK N. HJALMAR. - The Swedish

Institute for the Improvement of Field Crops at Svalot, page 834. PALAZZO L. - The Present Organization of the Meteorological Service in Italy, page 342.

PALIATSRAS G. - A Study on Milk and

their Ghemical Composition, page 1335 PAROW E. - The Present State of the Potato-Drying Industry in Germany,

page 1342. PPEIFFER TH. - The Possibility of Using Crude Phosphates and Limes contail ning Silica as Manures, page 1346 Piccioli Lopovico. - The Present Con ditions of Forestry in Italy, page 1682 PIROCCHI ARTONIO. - Utilization of Skin.

mary of Experiments carried out or 60 Calves, page 1457. PRINCO INAN M. - The Present Condi tion of Citrus Growing in Spain page 164. PUNNET R. C. - The Progress of Mende

lian Studies in Great Britain, page

med Milk as Food for Calves Sun-

497. RONA SIGISMUND. - On the Organization of the Meteorological Service in Hu gary, page 1806. RUSSELL E. J. - Recent Investigation at Rothamsted, page 336. SAWAMURA MAKOTO. - Horse Breedin in Japan, page 1326. SCHNEIDEWIND. - Manuring of Sug Beets. Present State of the Questit

in Germany, page 348. SCHUPPLI PAUL. - Calf Rearing on ti Emulsion System, with Coconut Bt ter as Cream Substitute, page 16 SERTORIO DO MONTE PEREIRA. - RECORS tution of Portuguese Vineyards means of American Stocks, page 3. SCHERBAUM H. C. - Experimental B

the Central Agricultural Experim Station of Stockholm, page 1677. SPILLMAN W. J. - Farm management the United States at the Pres Time: the Actual Scope of its Wo and Recent Development there page 997.

suits obtained of Recent Years by t

Section of Agricultural Chemistry

Fields in Italy, Page 1332.

Fields in Italy,

Agricultural Education in Austria; page 1474:
VOGLINO PIERO. - Work of the Observatory of Phytopathology in Turin, page 1000.
YOKOI (TORIYOSHI). - Agricultural Economy of Japan: Principal Features; Present Conditions of Production,

## II. - AGRICULTURAL INTELLIGENCE

#### A) INDEX OF SUBJECTS.

ARACA: Areas cultivated in the Philippines, 27. The Renovation of the Abaca (Manila Hemp) Industry, 1036.
Abaka, 332.

Abrus precatorius, 262.

Acacia melanoxylon, 41.

Acorns and Beechnuts as Food for Stock, 957.

Adansonia digitata, 256.

Adenanthera pavonina, 262.

Adulteration and Fraud: Watering of butter-milk, 61. Seeds used to adulterate the seeds of Abrus precatorius, 262. Method of determining the presence of starch in sausages, 416.

Aeration of ricks, 576.

Afrou or yellow yam, 246.

Afrikander Cattle, 154, 280.

Agave, see Sisal Hemp.

Agave Lespinassei (Zapupe Vincent), 938.

Agave Sisalana, 250, 355, 938, 1150, 1257.

Agricultural Book-Keeping, see Book Keeping.

Agricultural improvements: Freeing Land from Salt, 13, 912. The Land cultivation Commission in Schleswig Holstein, 340. Scheme for reclaiming Puszta Hortobazy in Hungary, 441. Soil Improvement near Rome, 481. A model Improvement with Rounding up of Holdings in the Tyrol, 738. Warping in England, 914. Example of Intensive Improvement in the Tuscan Maremma, 1381:

Agricultural Institutions: An Enquiry into the Condition of Association in Swiss Agriculture, 5. Proceedings of the Sixteenth Annual Meeting of the American Association of Farmers' institute Workers, 6. The Work of the Office of Farm Management of the United States, 57. Growth and Usefulness of the Publication Work of the U. S. Department of Agriculture, 95. The Meteorological Service in Italy, page 342. The Swiss Dairy Association, 208. The Agricultural Associations of the Cape Province, 209. The Land Cultivation Commission and the Land Cultivation Office in Schleswig-Holstein, 340. The Work of the Agricultural Association of Tunis, 457. The Necessary Changes in the Organisation of the Procedure Relating to the Sub-division and Re-adjustment of Holdings, 458. The Formation of Horticultural Committees in the Prussian Chambres of Agriculture, 459. Swedish Institute at Svalof, page 834. Phytopathological Laboratory of the National Museum of Rio Janeiro, page 858. The Great Agricultural Week in Parls, 639. Observatory of Phytopathology in Turin, page 1000. Phytopathological Section of the Central Agricultural Experiment Station in Stockholm, page 1005. The Work of the Swiss Agricultural Association in the Year 1912, 1022. The Agricultural Institutions of Spain,

nization of the Superior Council of Agriculture in France, 1314. Agricultural Shows, see Shows. Agustà-ruguai, 694, Ajes, 663. Aku prima, 31. Alang-Alang, 120, 168. Alcohol, see Distillery. Aleurites sp., 515, 689, 1339. Algau, 280. Allium triquetrum, 1157. Almond: On a Graft-Hybrid between Peach and Almond, 1045. Alpinia nutans, 310. Amblyomma Hebraeum, 43. Ammoniaksuperphosphat, page 349. Ammophila arenaria, 310. Analysis of Agricultural Products: The original Chemical Composition of Peruvian Guano, 112. The Chemical Composition of the Oat Kernel, 116. Composition of Cambodia Soy Beans, 122. Composition of Tunislan Wines, 181. Uniform methods of Sugar Analysis, 306. Analytical character of the Musts in the Canton of Vaud, 309. Composition of Canavalia ensiformis, 498. Composition of Pennisetum purpureum, 490 Composition of Beet Sugar in the Dry Years and the Effect of Late Rains, 509. Analysis of varieties of Sugarcane, 513. Composition of Kukui Oil, 515. The Composition of Ewe's Milk, 585. Composition of the Maconnais-Beaujolais Wines, 602. The Chemical Composition of Sharps and Bran, 606. Practical Course of Wine analysis, 774.

128. The Financial Measures of the

Prussian Chamber of Agriculture,

1129. Resolution of the Swedish Au-

thorities on the Future Position of

the Swedish Station for the Improve-

ment of Seeds, 1130. The Work of

the Imperial Institute for the Econo-

mie Development of the British Co-

lonies and India, page 1803. Reorga-

rabso, 146. The Passage of Products of the Digestion of Albuminoids from the Mother to the Foetus, 544. Investigations into the Micro-Flora of the Large Intestine of Cow and Sheep, 695. Fluctuations in the Body Temperature before Parturition in Cov. Sheep and Goat, 696. The Pepsin and Chymosin Question, 697. Report of the Zoometrical Studies made in 1912 at the Shows at Paris, Rouen and Poitlers, 698. Researches into the Amount of Manganese present in the Bodies of Animals, 824. The Effect of Intestinal Poisons (Paracresol and Indol) on the Central Nervous Systems of Animals, 825. The Alcohol Content of Milk after giving Cows Various Doses of Alcohol and under the Influence of Habit, 955. Experiments on Carnivors on the Economy of the Nitrogen of Food caused by certain Salts, especially by Sodium Acetate, 956. Left-Sided Bearing in Cows, 1050. The Correlation between Genital Glands and Dentition, 1051. Researches Respecting the Boron Content of Milk and Eggs, 1052. The Distribution of Creatin in the Bodies of Mammals, 1166. A Calorimeter for Small Animals, 1167. The Effect of Previous Nutrition upon Metabolism Suring Fasting, 1168. The influence of the Ingestion of Sodium Nitrate on Nitrogen Exchange, 1169. The Effect of the Iron Content of Blood Med upon the Iron Assimilation of Animals fed with it, 1170. The Relation of Growth to the Chemical Constituents of the Diet, 1171. Contribu tions to the Knowledge of the Fer ments of the Mammary Glands and d Milk, 1266. Investigations on its

Chemical Researches to Seeds of Ca. CEO. 925. Buffelo Milk Analysis, opp.

Anatomy and Physiology of Live Stock

A Study of the Normal Blood of Ca-

Anaplasmosis in Cattle, 145.

Rate of the percentage of the Small Intestine, 1351. Cyanogenesis under Digestive Conditions, 1352. ndropogon halepensis, 694. othrax Spores of Hides and Skins, 542. pichu, 663. piculture, see Bee Keeping. poles: Is it Necessary to Fertilize an Apple Orchard? 38. Cornell, San Jacinto, Shiawassee Appie, 39. In Germany, page 506. The Composition of Irrigated and Non-Irrigated Apples. 1348. rbutus Unedo, 1093. rgus miniatus, 42. rgas persicus, 397, 823. rracacha esculenta, 358. rracacia xanthorrhiza, 358. rsenic: The Presence of Arsenic in Plants, 114. A Note on some interesting Results Following the Internal Administration of Arsenic in Cancer and Other Diseases of the Foot in Horses, 382. Oxidation of Arsenite of Soda in Dipping Tanks, 691. Arsenical Dips in Protecting Cattle, 815. Resistance of various animals to Arsenic, 952. senite of Soda in Dipping Tanks, 691. undo Donax, 265. paragus Breeding for Rust Resistance, 240. sa-peixe of Brazil: Substitute for Hemp, 252. ses, see Mules. sociations, see Agricultural Institutions. talea Cohune, 1038. . . bergine, Very long Perfection, 807. tomatic Feeder: Helm's Automatic

Feeder, 732. For Poultry, 1283.

iculture, see Poultry.

CILLUS CASEI FILANS, 589.

cillus subtilis, inoculation in Soil, 14-

inheiro, 41.

ucena, 694.

the Micro-Flora and Fauna of the Soil, 467. Denitrobacterium thermophilum sp. nov. : a Contribution to the Life-History of Thermophile Bacteria, 468. The Partial Sterilization of Soil and the Nature of the Limiting Factor of Bacterial Development, 646. Some Bacteriological Studies of Old Soils, 779. Recent Work of the Bacteriological Section of the Central Agricultural Experiment Station at Experimentalfället near Stockolm, page 1478. The Question of the inoculation of New Crops on Moor Soil, 1135. Experiments on Denitrification, 1136, The Bacterial Activity of the Soli in Reiation to some of its Physical Properties, 1240. Studies in Bacteriological Analysis of Indian Soils: No. 1, 1910-1911, 1242. Bambonassa, 373. Bananas: Encouragement to Pianting in Mexico, 444. Their Cultivation and Utilization, Trade in Banana Products. Classification of the Genus Musa, 947. Some Results obtained in Studving Ripening Bananas With the Respiration Calorimeter, 1031. Bani, 127. Baobab Oil, 256. Barabangas, 132. Barium . The Occurrence of Barium in Tobacco and Other Plants, 924. Barley: Comparative Experiments in Barley Cultivation, 26. A Summary of Experiments in Barley Growing conducted during the Eleven Years 1901-1911, 119. Acreage and Production in Japan, page 336. Comparative Tran-

spiration Experiments With Awned

and Awniese Bariey, 238. How Thickly

Baco, 332.

Bacteriology and Soil Organisms : Inve-

stigations on Sickness of Soil, 14.

Accumulation of Nitrogen in the Soil

by Micro-organisms, 110. The Effect

of Toluol and Carbon Disulphide upon

Parint 241: Notice a targer in the cultivated in Hungary, 242 Cultivation Experiments with Spring Barley, 243. Svalot Golden Barley (a Gullkorn »). 493. Trial of a Barley Drying Plant, 1370. Barosma betalina, crennlata, serratifolia, 1344. Batata edulis, 663. Batata salsa, 358. Beans: Phaseolus lunatus, Lima beans etc., 245. Dwarf Haricot Bean, Dwarf Butter Beans, Runner Beans, 374. The Jack Bean and The Sword Bean, 498. Extra early Dwarf Mangetout Haricot with green seed, 807. Bee Keeping: Mendelian Methods applied to Apiculture, 162. Notes on Bee-keeping in Australasia, 163. The Fungi of the Bee-Hive, 164. Sacbrood, a Disease of Bees, 398. The Württemberg Apicultural Stations for the Production of Selected Queen Bees, 720. Consumption of a Hive of Bees during the year, 966. Further Report on the Isle of Wight Bee Disease, 1185. Beechauts as Food for Stock, 957. Beet, see Sugar Beets. Biliary Fever of Horses, 43. Binlid or Broken Rice, 27. Biorisator, new apparatus and method for milk sterilization, 1190, 1389. Bixa Orellana, 203. Black-pitted Tick, 43. Blood Meal, 1170. Blue Grass, 152. Blue Fick, 43. Blumea balsamifera, 260. Boehmeria caudata, 252. Boehmeria nives, 249.

Bokalaky, 132.

Bont Tick, 43.

Book keeping, Agricultural: Measures

adopted in Switzerland, page 13. Mea-

sures adopted in Sweden to spread Book-keeping among Parmers, page

Bones, 561.

nt at the large Institute of Rectant in A Cantonal Agricultural Book keeping Office, 174 Agricultural Book-Reeping in Austria 410. The Net Returns of Farms onnected with the Book-keeping Asen ciation at Königsberg in Prussia, 987 Boophilus decoloratus, 43. Boron: Effect of Compounds of, upon Plants, 483. Researches Respecting the Boron Content of Milk and Eggs. 1052. Botany, Agricultural: Investigation on the Relation between Anatomical Structure and Physiological Characters in Oats, 356. Solanum Chimeras, 484. On Some Vegetative Anomalies of Trifolium pratense, 485. Self Coloured Violet Seeds of Pisum arvense, 486. Distribution of Nicotine in the Leaves of Kentucky Tobacco, 1030. On the Presence of Connecting Threads in Graft Hybrids, 1032. See also. Chemistry and Physiology of Plants. Bran, The Chemical Composition of 606. Breadmaking: Characteristics of German Cereals. Properties of Rye and Wheatmeal, 25. The Content of Sohuble Nitrogenous Substances, as I Criterion of Flour, 605. Researches on the Digestibility of Bread, 607. Breeding of Live Stock: Some Data of the Inheritance of Horns in Sheep 148. Pigments carried by Cattle, 275 The Fertility of Hybrids in a Mamma lian Species-Cross, 699. Why Inbred ing Decreases Fertility, 828. In Present State of the Question of la breeding in Germany, page 1450. Ca stration in Relation to the Secondar Sexual Characters of Brown Leghorn Breeding-Experiments vil Ducks, 959. Dairving without Breeding 979. The Presence of the Barred Ph

mage Pattern in the White Leghal

Breed of Powls, 1053. On Sex-Line

the information of Cats, 1084; A Meshot of Departmenting Early Stages of Programmy in March, 4267; Results of Investigations on Metcelity in Pigs, 1268; A Contribution Tewards an A-

nalysis of the Problem of Inbreeding, 1353; Productions note on some Experimense with a Polymorphic Phasolid, 1384. The Inheritance of Coat Colour in Horses, 1355. See also En-

corragement of Breeding.

Breeding, Plant, see Selection.

Brewing: Burley for Brewing, 26.

Drying of Yeast in Germany, page

692. See also Barley and Yeast. Broom Corne Manuring of, 935. Brown Tick, 43.

Buchu, Cultivation, 1344.
Buffalo Milk Analysis, 991.
Building Construction: A Cutting-Out

Gate for Hogs, 293. A Practical Flooring for Pig Styes, 405. A Handy Sheep Dip, 574. Automatic Drinking Troughs, 575. Basket-Work Ventilators, 576. Helm's Automatic Feeder, 732. An Apparatus for Drying Cot-

ton, 733. Systematic Ventilation of Stables, 853. Prize Designs for Double Dwelling House for Agricultural Labourers, 978. Alpine Cheese Shed, 1077. A Practical Flooring for Pigture, 1295. West-in Pile.

styes, 1285. Watering Place on Moor Pastures; 1286. 3urgo, 41.

3urgo, 41.

3utter: Manufacture with Culture Starters in Italy, page 514. Exports from Denmark in 1912, 336. The Manufac-

Denmark in 1912, 336. The Manufacture of Butter for Storage, 744. The Butter Problem, 980. Factors influencing the Change in Flavour in Storage Butter, 1087. Control of Butter

Yield, 1390. utz' Drains in Peat Moors, 229.

API SAN JUAN, 604. abbage: Barly Copenhagen Cabbage and Brussels Sprouts, Merveille des Marches, 374. Early Cabbase, King of the Markets, 807.

Cacso: Cacso Husk as a Food for Milch Cowe, 156. Cacso Manuring Experiments in Dominica, 270. In the Gold

Coast, 332. Importation into Germany from the German Colonies, 335. In the French Colonies, 370. New Species of Shade Trees for Cacao, Vanilla and

Coffee Plants, 371. Production and Consumption of Cocoa, 521. Observations on the Preparation of Caeao, 806. Chemical Researches on Seeds, 925.

Cajanus indicus, 203, 1143, 1263. Cake: Perilla, 47, 384. Linseed, 48. Tomato-seed Cake, 385. Para Rubber

Seed Cake, Digestibility Experiments with Sheep, 1362.

Calcium as an Antitoxin to Certain Nu-

tritive Saits in Water Cultures of Peas and Lupins, 654. Calcutta Pea, 47. Calf Rearing on the Emulsion System,

with Coconut Butter as Cream Substitute, page 167.

Calorimeter: for Small Animals, 1167.
In studying Ripening Bananas, 1031.

Camel, Annual Report on Diseases, 381.

Camotes, 663.

duction of Natural, 260.

Canarium polyphyllum, 516.

Canavalia ensifomis and C. gladiata, 498, 1263.

Camphor: Recent Studies on the Pro-

498, 1263.

Cancer of the Foot in Horses, 382.

Cannabis sativa, Research on the Variability of the Sexes, 1252.

Carabao, 146.
Cardoon, Improved White, 807.

Carludovica paimata in Brazil, 373. Carob. Manuring of, 1047. Carp: Experiment in Feeding on Aco

Carp: Experiment in Feeding on Acorns at Trachenberg, 287. Actinomycosis of Prussian Carp, 722. Carp Breeding in Rice Fields in Italy, page 1332.

Secretary and the second Carrot : Red half-short optindrical Improved Saint Places, 607. Carvelho alvarinho y negral, 41. Casein: on the forms assumed by Phosphorus and Calcium in Milk, 414. Cassia florida, 203 Castanea vesca, 41. Castillos: Tapping, 167. A New Instrument for Tapping, 1373. Castor-oil Plant, 1152. Catalytic Radioactive manures, 350. Cattle: The Recent Development of Cattle Breeding in Germany, page 8. Ticks of Cattle, 42, 43. Nodular Helminthiasis, 44. Supply of Store Cattle and Slaughter of Young Cattle in Great Britain, 49. Calf Rearing on the Emulson System, page 167. Regulation for Cattle Sales on a Large Scale in the Villette Market, Paris, 93. Anaplasmosis in Cattle, 145. The Supply of Agricultural Cattle in India, 153. Afrikander Cattle, 154. Maize Distillery Residues as a Feed for Milch Cows: Influence on the Composition of the Milk, 155. Cacao Husk as a Feed for Milch Cows, 156. Number in Japan, page 336. Pigments carried by Cattle, 275. In the Kivu, 276. Jersey-Angus Cattle, 279. Crosses between Algau and African Cattle, 280. In Morocco, 387. Feeding Beef Cattle in Alabama, 390. The lufluence of the Stage of Lactation on the Composition and Properties of Milk, 391. Royal Jersey Agricultural and Horticultural Society, 392. The Administrative Measures taken in Holland in favour of Cattle Breeding, page 667. The Austrian Cattle Census of December 31, 1910, and the Fluctuations in the Number of Cattle since 1900, especially as regards Milch Cows, 551. A Contribution to the Knowledge of Tarantais Cattle from the Zootschnical and Economic Standpoints, 552. The First Show of the Red Camle of Central

Germany at Biedenkopi, 553. The

Influence of Alpine Grazing and Westher on the Mills Field of Covs. 555 The Variations in the Composition and Properties of the Milk from the Individual Cow, 556. The Milking Tests of Tyrolese Cattle-Breeding Associations, 557. The Inheritance of the Property of Milk Production and the Utilization of the Results Obtained by the Control Society, 712. The Latest Decisions of the Control Associations in the District of Malmöhus in Sveden and in Denmark, 713. The Relation Between Live-Weight and Performance in Cows, 835. Studies in Dairy Production, 836. A Kansas Call-Wintering Test, 960. Cattle Raising in Jamaica, 961. The Cost of Keeping a a Heirer up to its first Calving, 984. The Results yielded in 1912 by the Pasture for Young Cattle at Laineck, of Cattle, 1176. Welsh Black Cattle, Breeding and its Importance in German East Africa. The Various Breets of Cattle, 1176. Welsh Black Cattle, 1177. Carcase Test of the Piedmontes: Breed of Cattle, 1178. The Correlation between the Percentage of Milk Fat and the Quantity of Milk Produced by Ayrshire Cows, 1179. Investigations into the Daily Variations in the Specific Gravity and Fat Content of the Milk of a Large Herd, 1180. The Possibility of Increasing, with Economic Advantage, the Average Fit Content of Cow's Milk, 1181. Report on the Woburn Calf-Rearing Erperiment, 1912-13, 1269. The Proftableness of Keeping Stock, 1290 Comparative Trial of Osthriesland and Simmental Cows in Hungary, 1359. Comparative Fattening Experiments on Marsh and Moor Pastures in Ger-Cauliflower, Marvel of All Seasons, 80. many, 1360. Cenra, see Manihot.

Stangues of Cours is Call and in

Influence of Beef Production, 554

uba pentandra 1140. geals : Recent Scientific Investigations described in the First Collective Report of the Experiment Station for Cereal-Testing, 25. How Thickly should seed be sown on Mountain Farms? 241. Manuring with Soluble Manures in Dry Years, 346. The Progress of Cereal Seed Selection in France, page 972. Cereal Breeding in Germany, page 985. American Cereal Esiccator, 847. Influence of Pickling on the Germination of Cereals, 931. Cereal Experiments in the Texas Panhandle, 1034. Results of Drilling Manures in Hungary, page 1696. heese . A Study of the Gases of Emmental Choose, 62. Variations in the Composition of Whole Milk used in Cheese Making, 298. The Determination of the Water Content of Chee- . sc. 302. Manufacture with Culture Starters in Italy, 514. The Manufacture of Cheese in the Grisons from Skimmed Cow's Milk, 413. Study on the Technique of the Manufacture of Parmesan Cheese, Lodi Type, 588. The New Warm-Chamber Method of Making « Grana » Cheese, 745. « Bankrote» Cheese, 746. The Microflora of Stilton Cheese, 747. The Manuicture of Cheddar Cheese from Pateurized Milk, 867. The Bacteriology ! Cheddar Cheese, 868. Expericents in Making Camembert Cheese ecording to the Von Mazé Method, 69. A Comparison of the Acid Test and the Rennet Test for Determining he Condition of Milk for the Cheddar Type of Cheese, 993. A Study on Milk and Cheeses in Greece, page 1335. The Manufacture of Cheese from Heated » Milk, 1088. Practical Me-

hods for the Determination of Fat in

theeses, Comparison of the Methods

h Use, with Special Regard to the

lew Processes of Kooper and Wendler,

197. On the Defect Known as «Kny-

pers n in Edam Choose, 1293. Reindeer Milk and Reindeer Choose, 1388. The Scientific Basis of Cheese Making and the Use of Artificial Rennet in the Manufacture of Emmental Cheese, 1391. Chemistry and Physiology of Plants: The Presence of Arsenic in Plants, 114. Mode of Action of Weak Solutions of Electrolytes on Germination, 115. The Chemical Composition of the Oat Kernel. Variety and Variation, 116. On the Application of Precipitine Reactions to Seed Identification, 117. The Effect of the Concentration of Nutritive Solutions upon their Absorption by Plants, 235. Transpiration in Plants in Relation to Atmospheric Humidity, 236. The Wilting Coefficient for Plants in Alkaali Soils, 237. Comparative Transpiration Experiments with Awned and Awnless Barley, 238. The Intensity of Light and its Effects on Vegetable Assimilation, 351. The Effect of Weak Acids on Germination, 352. Causes affecting the Loss and the Retention of Water Vapour by Plants, 482. The Effect upon Plants of Boron Compounds, 483. Calcium as an Antitoxin to Certain Nutritive Salts in Water-Cultures of Peas and Lupins, 654. Modifications and Mutations of Tuberous Plants, 655. Studies in Nitrogen Nutrition in Plants, 791. The Effect of Artificial Shading on Plant Growth in Louisiana, 792. The Resistance Offered by Leaves to Transpirational Water Loss, 793. Natural Root-Grafting, 794. On the Penetration of Different Forma of Nitrogen in Plants: Adsorption Phenomena, Influence of the Nutritive Medium, 923. The Occurrence of Barium in Tobacco and Other Plants, 924. Chemical Researches on Cacao Seeds, 925. Some Results obtained in Studying Ripening Bananas with the

Respiration Calorimeter, 1031. Expe-

as Nitrogen-free Extract in Feeding-Stuffe and Human Foods, 1330. The Enzymes of the Tobseco Plant, 1331. See also, Germination, Selection... Cherry: Production of a New Variety of Cherry, 268. In Germany, page 509. Ten Years' Returns of a Chery Orchard in Holland, 580. Chickling Vetch, 47. Chickpea, 47. China Grass, 249. Chysanosoma actinoides, 46. Chlorine: on the Circulation on the Earth, 1522. Chrysanthemum (Pyrethrum) cinerariaefolium, Growing, 372. Cicer grietinum, 47. Cinnamomum Camphora, 260. Cltrus Fruits: The present condition of Clirus Growing in Spain, page 161. Citrus Growing in Rhodesia, 269, 532. Data on the Cultivation of Citrus Fruit in the Province of Salerno, Italy, 531. Cultivation of Limes in Dominica, 1263. See Orange, etc. Cleistogamy in Rice, 657. 1090. Climate, see Meteorology. Clover: Exportation and Importation into Hungary, 124. Two New Species of Clover, 359. As Manurial Agent, 474. Comparative Experiments on Red Clover of Different Origins at the Syalof Institute during 1907 to 1912, 1144. Cocs and the Cocsine Industry in Peru, Cockstoot (Dactylis glomerata), 1142, Cocos, see Cacao. Coconut Palm: Remarks on the Coco

signature on the Archaeller of Chare-

asmine Hydrachloride as a Source of

Ninogen for the Nurricion of Cum

(Zea Mans) and Beans (Phaseolus

multiflorus), 1141. Influence of the

Partial Suppression of Food Reserve

in the Grain on the Anatomy of

Plants, 1251. The Substances classed

Palm, 40 Chester Beller as Cream Sabeticute in Cast Rearing, page 167 Coconut Kernala, Importation into Ger. many fron the German Colonies, 38 Manuring of Coconuts in the Sevelel. les, 1160. Coffee arabica, 33. Coffee robusta, 40, 389, Coffee : The Coffee Plant in Arabia, 33. Coffee robusta interplanted with Coco Palm, 40. Importation into Germany from the German Colonies, 335 Study of Coffee robusta, 369, New Species of Shade Trees for Coffee 371. Experiments on Growing Coffee under Shade, 676. The Production of Coffee in the French Colonies, its Im. portance in the Consumption of the Mother-Country, 1042. Cohune Nuts, 1038, Coir: Mechanical Extraction, 40. Cola de zarro, 694. Cola Nuts: In the Gold Coast, 332. Cold Storage: Instruction in Cold Storage Methods in France, in 1912-1913, 4. Bartlett Pear Precooling, 534. Elfect of Freezing upon the Composition of Milk, 584. The Application of Artificial Cold to Food Products (Early Vegetables, Meat, Fish, Musts and Wine) in North Africa, 603. la Wine Making, 749, 750. Use of Cold in the Dairy, 861. The Origin of the ladustry and Trade of Cold-stored Meal, Colebra, 41. Colonial Agriculture: College at Tunk, 207. In Italy, page 1135. Competitions, see Shows. Congresses: 6, 12, 105, 106, 219, 221, . 222, 223, 342, 461, 641, 776, 908, 1023, 1132, 1238, 1320. Copper, Salts: Cupric Treatments and its Nitrification of the Soil, 911. Copra : Copra in the Gold Coast, 32 Importation into Germany from the German colonies, 335, 1017. Copya Bug, 63.

orcebus undatus, 41. ork Oak : The Economic Importance to Portugal of the Cork Oak and its Products, 41.

opin lich, 97.

lotton: The Branching Habits of Egyp-

tian Cotton, 28. Cotton Growing in Louisiana, 125. Cambodia Cotton in Bombay Presidency, 126. Improvement in India, 127. In Italian Soma-

illand, Benadir, 203. Cotton industry of Nyasaland, 248. In the Gold Coast, 332. Importation into Germany from the German Colonies, 335. Cotton In-

dustry in the West Indies, 360. Cotton Experiments in the Cape Province. 361. Cotton Experiments in British

Guiana, 362. Cottonseed meal, determination of the Amount of Hulls. 386. Fibre from Different Pickings of Egyptian Cotton, 503. Durango Cotton

In the Imperial Valley, California, 504. Russian Cotton, 666. The Cotton Industry of Northern Nigeria, 667. Cotton in Egypt and the Anglo-Egyp-

tian Sndan, 668. Apparatus for Drying, 733. Cotton in Egypt and the Anglo-Egyptian Sudan, 801. Egyptian Cotton Culture in the Southwest (United Sta-

tes), 802. The Development of Cotton Growing in British Possessions, 936. Cotton-Growing Experiments in Sicily

in 1912, 937. Soil Moisture Determina-

tions for Cotton, 1025. Manuring Experiments on Cotton in Italy, 1035. Cottou Problems in Louisians, 1147. In India, 1148. Cotton Farming in the Southwest, 1256. The Movements of

Soil Water in an Egyptian Cotton Field, 1323. Report on Irrigation Expetiments with Cotton at Richard-Toll

(Senegal) 1912-13, 1336. ws, see Cattle. ...

oss Breeding, see Hybridisation and

Breeding. ittings: Method for keeping alive for ong periods, 502. On Stumps for planing Hevea, 517. A comparison bet-

ween the Cuttings of Grafted and Ungrafted Vines, 808. Crotolaria interplanted with Goconntpalm, 40.

Crotolaria sp. Dangerous to Cattle, 1350. Cryptostegia madagascariensis, 132. Cucumber, 807.

Cultivation, Methods of: Use of Dynamite for Breaking up Land. Experiments conducted at the Agricultural Station of Lausanne (Switzerland), 230.

Field Records relating to Subsoil Water, 471. Experiments in Subsoiling at San Antonio, 472. Rotation in the Middle West of the United States, 583. The Present State of Motor Cultivation in Germany, page 852. The Effect of

Loosening the Subsoil on Yield, 650. The Possibilities of Profitable Cultivation in the Dry Districts of Cey'on, 651. The Effect of Bastard Trenching on the Soil and on Plant Growth, 1325. Cupressus glauca, 41. Cush-Cush Yam, 246.

Cyanamide, see Manures, Nitrogenous. Cynodon Dactylon, 694. Cytisus Adami, 1032.

Dai-Bi, 260. Dairying: The Importance of Infectious Catarrh of the Vagina in the Control of Milk, 60. A Quick Method of detec-

ting Water in Buttermilk, 61. Dairying in Hungary In 1911, 175. The Swiss Dairy Association, 208. Congress of the Dairy Industry at Berne, 222. Trial of the Hand Power Separator «Lacta 2», 291. Variations in the Composition of Whole Milk used in Cheese Making, 298. Whey Lemonade, 301. Extract from the Report of

the Swiss Dairy Institute in Beine for the Year 1911, 411. The Alpine Dairy Industry, 412. The Manufacture of Cheeses In the Grisons from Skimmed Cow's Milk and Whole Goat's Milk, 413. Dairying versus Fat-

tening, 582. The Lisbon Milk Supply,

86. The Estimation of the Efficiency I Commercial Recover, 567. A Threadorming Lactic Acid Bacilius (Bacilus casei filans), 589. The Determinaion of the Fat Content of Cream by br. Köhler according to Du Roi-Ioffmeisters Rinsing Method, 501. The Money Value of Skimmed Milk, io2. Model Dairy at Riga, 593. The Nursery Milk Establishment of the Town of Stendal, Germany, 594. Calrulation of the Cost of Production in Peasant Farms, 854. Three Years of Dairy Farming, 857. The Use of Cold in the Dairy, 861. Modifications in the Composition of Cows' Milk Due to the Use of Drugs, 862. A Comparative investigation of the Digestibility of the Protein of Raw Milk and of Milk Desiccated at High Temperatures, 865. The Effect of the Salts of the Rare Earths upon the Coagulation of Milk by Rennet, 866. Utilization of Skimmed Milk as Food for Calves, p. 1457. Dairying without Breeding, 979. The Economic Causes of Decreased Milk Production in Austria Hungary, 981. The Determination of Fat in Dried Milk. 992. A Study on Milk and Cheeses in Greece, page 1335. Difference in the Returns of two Dairy Farms and its Causes, 1080. Preparation and Use of Yoghurt, 1086. The Correlation between the Percentage of Milk Fat and the Quantity of Milk Produced by Ayrshire Cows, 1179. Investigations into the Dally Variations in the Specific Gravity and Fat Content of the Milk of a Large Herd, 1180. The Possibility of Increasing with Economic Advantage,, the average Fat Content of Cow's Milk, 1181. Trial of a Small Steam Cream-Pasteurizer, 1282. Recent Experience and Progress in Germany, page 1828. Cost of Milk Production in Mexico, 1386. The Actual State of the Deley Industry in Japan, 1367. Reindeer Milk and Reindeer Cheese, 1388.

See also Mill. Chesse, Butter, Milking. Dankall, 663. Date Palm: Date Sugar Industry in Bengal, 671. On the Cultivation of the Date Palm for Fruit in Sicily, 687 Export of Shoots of Date-Bearing Palms, 948. Denitrification, see Bacteriology and Soil Organisms. Denitrobacterium thermophilum, 468. Dermacentor venustus, 42. Dermestes cadaverinus, 63. Desiccator: An Apparatus for Drving Cotton, 733. American Cereal Esiccator, 847. Portable Wheat Esicestor. 973. Continuous Drying Apperatus for Agricultural industry, 974. Improved Universal Desiccator for Drying Potato Slices, Beet Leaves, Cereals, Beet Seeds, etc. 1074. Desmodium hirtum, Leguminous Forage Plant Recommended for the Preven-

Development of Agriculture in Different Countries: Brazil (Paranà), 448. Brazii (Rio Grande do Sul), 337. Bulga ria, 626. Chad, Military Territory, 447 Denmark, 336. French Tropical Colo nice, 446. German Colonies, 335, 629, 767, 1017. Gold Coast, 332. Great Britain, 445. Greece, 766. Guatema la, 631. Guinea, French, 627. Holland, 902. Indo-China in 1911, 333. Japan, page 33f. Japan, Formosa, 630. Madagascar, 204. Mozambique Province, Portuguese "East Africa, 628. Nev Zealand in 1912, 334. Peru (Valley d Ica), 449. Philippine Islands, 450. Rumania, 625. Russia, 901, Somailland, Italian (Benadir), 203. Dioscorea sp., 246.

tion of the Development of Weeds and

as Green Manure for Tropicaal Plants,

1146.

Diphtheria in Fowls, 51.
Diphtheria in Fowls, 51.
Diphing: Tanks: Oxidation of Arsenical
Soda, 301. The Action of Arsenical

Dipe in Producting Cartle from Intestation with Fleks, 815. Cattle Dipping at Short Intervale, 1284. Distillery: Maire Residues as a Feed for

at Short innervals, 1202.

Bistillery: Maire Residues as a Feed for Milch Cowe, 155. The Manufacture of Nipa Aicohol in the Philippines, 604 Use of Prickly Pears for Alcohol Production, 904. Alcohol from the Fruit of the Strawberry Tree (Arbutus Unedo), 1903. Plum Brandy, Improve-

ments in its Manufacture, 1204. Distributors of Manures, 166, 289. Diebars, 948.

Dog Tick, 43.
Dogs, Treatment of Surra, 819.

Dolichos multiflorus; 1334.

Drainage: Experiments with Butz'

Drains in the Peat Moor near Bernau

on the Chiem See, 229. The Experimental Drainage Field at Josephsdorf, Germany, 648. The Best Cross-Section for Ditches in Drainage Opera-

tions, 649. New System for, Draining Land and Freeing it from Salt, 912. Experiments in Beigium, 913. Box

Drainage, 1324.

Orills: Manure Drill, 289. The Pracner Drill, 403. Results of Drilling Mann-

res in Hungary, page 1696. Drill for Beet Seed, 1070. Hand Drill with Revolving Tube, 1368. Finking Troughs: Automatic Drinking

Troughs, 575. For Pigs, 1189. See also Watering.

)rought, Resistance of Pastures to, 664.

Irought, Resistance of Pastures to, 664.
Iry-Farming: International Dry-Farming Congress and Soil Products Exposition at Tulsa, Oklahoma, U. S. A.,

from October 22 to November 1, 1913, 223. Field Records relating to Subsoil Water, 471. Experiments in Subsoiling

at San Antonio, 472. Dry Farming in India, 473. The Possibilities of Profitable Cultivation in the Dry Districts of Ceylon, 651.

Drying of Agricultural Products: Yeast, Dry, as Fodder, 47. The Development of the Dried Yeast Industry in Germany, page 692. The present State of the Potato Drying Industry in Germany, page 1342. Improved Universal Desiccator for Drying of Agricultural Products, 1074. The Present State of

the Industry of Esiccating Forage,

1094. Trial of a Barley Drying Plant,

1370. Potato Drying Plant, 1372. Dryobalanops Camphora, 260. Ducks: Breeding in Great Britain, page 673. Breeding Experiments with, 959.

Dumoria Heckeli, 332.

Dynamite for breaking up Land, 230.

Dynamometer for Steam Ploughs, 401.

EARTHNUTS: Peanut Butter, 65. In Java, 120. In Italian Somaliland, 203. Importation into Germany, 335.

In Gujerat, 803.
East Coast Fever, 43.

Education and Experimentation in Agriculture and Foresty: The Position and Condition of the Prussian Rural Con-

tinuation Schools during the Financial
Year 1911, 2. Standardization of Instruction in Forestry in the United
States, 3. Instruction in Cold Storage
Methods in France in 1912-1913, 4.
Agricultural Continuation Schools in

Beigium, 99. Second international Congress of Instruction in Househald Management at Ghent, Belgium, in June 1913, 105. Third International Congress of Farm Women at Ghent,

106. A Retrospect of the Scholastic Year 1911-12 in the Agricultural and Forestry Schools and Colleges in Austria, 205. New Regulations Affecting the Study of Agriculture at the University of Cracow, 206. The Colonial Agricultural College at Tunis, 207. The Organization and Present Con-

dition of Agricultural Instruction in

Belgium, 338. The New Bill for the Advancement of Agricultural Instruction in Canada, 339. Grants for Agricultural Beneation and Research in England, 1911-12, 452. The Practical

Reinst Eddingry of the Rivel Agricultural Colleges and Agricultural Schools in Hungary, 1909-1911, 453. The Agricultural College at Grigmon (Francel, 454. The Canadian Experimental Parms Report for the Year ending March 31st, 1912, 455. A Proposed Tropical University, 456. Courses of Instruction and Lectures on Fruit, Vegetable and Flower Culture in Belgium, 632. The Agricultural Curriculum at the Hamburg Colonial Institute, 633. The Establishment of a German School of Picciculture at Eger, 634. Amalgamation of the Poultry Stations in South Australia, 636. Regulation for the New Higher School of Agriculture and Veterinary Medicine in Brazil, 638. The Promotion of Agricultural Instruction and Experiment in Switzerland by the Union, in 1912, 768. The Study of the Science of Rural Administration at the Berlin Agricultural College, 769. The Teaching Method in the Provincial School of Agriculture and Cattle Breeding at Ath, Belgium, 770. Teaching Manual Work in the Country, 772. Technical Instruction in Ploughing, 773. Second Practical Course of Wine Analysis by the Physico-Chemical Volumetric Method, 774. The Study of Colonial Agriculture in Italy, page 1135. Grants for the Development of Agricultural Education in the Argentine, 900. The Work of the "Landes Kalturrat" of Lower Austria in the Promotion of Listry Farming, 904. The Live Stock Institute at Louvain in Belgium, 905. New Regulations regarding the Adthiselon of Regular Students to the Milan Agricultural College, 906. De-

cree and Order reliable to Agricultu-

ral Instruction under the Departments under Communication Property, 1916. Agri-

cultural Education and Research in

Unghant and Water, 1018: The Agri-

tultural Colonial Instituté at Piorence,

in ske Palitpoine Islands, 1020, Provi sions for the Tidal News of Thillion for Women Tousters of Agricultural House-keeping, 1021. The Present Stato of Agricultural Education in Austria. page 1471. The Agricultural and Fo. restry Colleges and Schools in Austria in the Scholastic Year 1912-13, 1231. Schemes for the Reform of Hori. cultural Education in Austria, 1232. Importance, Scope and Carrying out of Practical Work in Agricultural Schools, 1233. Proposals for the Unification of the System of Instruction in the Lower Agricultural Schools in Austria, 1234. Agricultural and Forestry Colleges in Prussia during the Summer Halfyear of 1913, 1235. Farm-Management Course at the Agricultaral Academy of Bonn-Poppelsdorf. 1236. Law and Regulations randering Attendance at Local Extension Schools obligatory in the Provinces of Brandenburg, etc., 1315. Eggs: Egg-Laying Competitions, 52, Trade Commissioner, 161. The la-Eggs. Views of the South African Trade Commissioner, 161. The influence of Selection on the Size of Fowls' Eggs, 284. Exports from Denmark in 1912. 336. A New Method for the Industrial Preservation of Eggs, 396. Researches Respecting the Boron Content of Milk and Eggs, 1052. Eichhornia crassipes, 333. Biocartelly in Agriculture: Use and Cost, 54. Tapping Rubber Trees by Blectricity, 167. Electricity in Vint growing, 266. Electricity and Agriculture, 727. Elephant Grass, 499, 1255. Block : Expert of Paim Kernels and Pales Off from the Gold Coast, 332 Importation of Palm Oil into Germany from the German Colonies, 335. The Process Evolution of the Exploitain

and the industry connected with its

1049: Anthones De

Of Palm, Will Profes Pruits without Secret 1181 Emportal Classic 62

Famision Milk in Call Rearing, page

Encouragement of Breeding: The Recent Development of Cattle Breeding in Germany, page 8. Stock Census in Hungary for the Periods 1895-1911 and 1911-12, 149. Live Stock Breeding in the Province of Entre Rios, Argentina, 150. The Encouragement of Horse Breeding in Brazil, 151: The Breeding of Mules for the Market in Missouri, 152. Live Stock in Japan, page 334. General Show of Breeding Animais in Paris, 211. Stock Breeding in the Kivu (Belgian Congo), 276. italian Law for the Protection and increase of the Production of Live Stock. 330. Stock Breeding in Morocco, 387. Canadian National Live Stock Records for the Years 1909, 1910 and 1911, 388. The Administrative Measures taken in Holland in Favour of Cattle Breeding, page 667. Encouragement to Farming and Stock Breeding in the State of Colima, Mexico, 444. The Drawing Up and Printing of Pe-Central Agricultural Experiment Stadigrees, 546. Live Stock Breeding in tion of Stockholm, page 1677. See also the Sierra do Norte in Peru, 547. Education and Experimentation. The Fat Stock at the General Stock Show in Paris, 548. The Exportation of German Stud Stock, especially to the Colonies, 701. Small Breeders' Associations in italy, 702. List of Stud Book Associations, 703. The Annual Live Stock Show at Santiago, Chile. in 1912, 704. Report of the Eighth

Systematic Show of Milch Cows of

the Brown Breed on September 28,

1912, at Creera, Italy, 708. The Thir-

ty-Seventh Pat Cattle Show in Berlin,

830. The Show of Stud Asimals at

Algiers, 831. Three Years' Work of

he Ferndale Cow Testing Associa-

ion (California), 1055. The General

show of Breading Stock, Paris, 1913,

1056. The Recent Development, of Cattle Breeding in Sweden, page 1502. The Show of Breeding Stock at Souk-Ahras, Algeria, 1174.Live Stock Breeding in Prussia during the Last Twenty-five Years, 1356. Engineering, Farm, see Machinery and Implements, Agricultural; Building Construction, etc.

Ensilage : Of Sugar Beet Pulps, 147. Eragrostis abissinica, 665. Eriodendron anfractuosum, 203.

Eucalyptus globulus, 41. Euphorbia sp., 203.

Evaporation fram Water Surface, 909, 910.

Exhibitions, see Shows.

Experiments: Recent Investigations at Rothamsted, page 336. In Algeria and Tunis, 346. Experimental Farms in Canada, 455. Recent Work of the Bacteriological Section of the Central Agricultural Experiment Station at Experimentalfället near Stockholm, page 1478. Organization of Fleid Experiments in Denmark, page 1479. Experimental Results Obtained by the Section of Agricultural Chemistry of the

FAGOPYRISM, the cause of, 1163. Faisa cebadilla, 694.

False Rubber Liana, 31.

Fertilizers, see Manures. Farms: Measures adopted in Switterland for the Introduction of Agricultural Book-Keeping, page 13. The Canadian Experimental Farms Report, 455. Ruskura Farm of Instruction, A Digest of the Work of the Year, 637. Farm Management in the . United States, page 997.

Fasciola hepatica, 380. Feeds: New Feeds and their Value for Agriculture, 47. Hydrocyanic Acid from Linseed Cake, 48. Use of « Vin-

ilage of Sugar Beer Palpe, in , 147. Maize Distillery Resi-, 155. Cacao Huak as a Feed for filch Cows 150. The Investigation and Value of Perilla Cake and Movrah Meal, 384. Tomato Seed Cake, 385. Method for the Determination of the Amount of Hulls in Cottonseed Meal, 286. Sugar Cake Brand B., 716. The Nutritive Value of Maize Cob Meal 827. Acorns and Beechnuts as Food for Stock, 957. Sorghum Crops for Silage, 1172. Manioc Roots and the Residues of their Elaboration, 1173. See also, Cake, Feeding, etc. Feeding of Live Stock: Influence of Maire Distillery Residues on the Compostion of the Milk, 135. Utilization of Food by Zebus, 545. Comparative Feeding Experiments with Hominy and Barley for Pigs, 714. The Employment of Whole Milk and of Corrected Skimmed Milk in the Rearing of Calves and Pigs, 826. Utilization of Skimmed Milk as Food for Calves, page 1157. Intensive Feeding of Milch Cows, 982. Sorghum Crops for Silage. Feeding Experiments with Dairy

hips of a Large Scale for

Fever, Yellow: And Mosquitos, 96.
Pibre Crops: Henequen, 505. New Zealand Flax (Phormium tenax), 506. Textile Plants, 508. Agave Lespinassei (Zapupe Vincent), 938. A Textile Plant from the Sudan, 1037. See also, Cotton, Hemp, Flax, Sisal, etc.
Ficus elastics: In Indo-China, 333. The

Cattle, 1172. Swiss Law Concerning

the Control of the Commerce, 1313.

See also Feeds.

Rubber District of the Amazon, 518.
First Rigo, 133.
Fish: Stocking Trout Streams, 53. Fish-Breeding in the Streams of the Domeetal Porests of Hungary, 165. Methods of Proceeding Fish Ponds from Brost, 266. Experiment in Peeding Corp on

Acorns at Trachenberg, Germany,

287. Tape Virtae Blesses of Roach and Breasts, 392. German School at Eger, 634. Automatic Piching Apparatus.

721. A Dunish Eel Farm, 841. The Stickleback, a Source of Danger in Fish-Breeding, 1274. Contribution to the Study of Furniculosis, especially

with regard to the Salmonidae, 1275.

Manuring Experiments on Fish Ponds, 1276. Investigations into the Causes of Furunculosis, 1363.

Flox: The Encouragement of Flax Grow.

Flox: The Encouragement of Flax Growing in France, 92. New Zealand Flax (Phormium tenax) Refuse. Its Mannial Value, 506. Projected Revival of the Flax Industry in England, 800. Files, 951.
Flour, see Bread Making.

Fony, 256.
Foot-and-Month Disease, see Hygiene

of Live Stock.

Forage Crops: Two New Species of Clover, 359. Elephant Grass (Pennisefam purpureum): a New Fodder Plant, 499. Nonperennial Medicagos: the

Agronomic Value and Botanical Relationship of the Species, 500. Cultivation Experiments with Leguminous Forage Plants in Argentina, 501. Keeping Soft: Cuttings Alive for Long Periods, 502. Sudan Grass, A New Drought-Resistant Hay Plant, 799. New Selection Varieties from Alpine

Forms of Fodder Grasses, 1142. Manuring Experiments on Alpine Pastures in Carinthia, 1145. Desmoding hirtum, 1146. Elephant Grass or Napier's Fodder: Pennisetum purpareum, 1255.

Forestry: In Portugal, 41. Forest First

in the United States: Their Causes, Extent and Control, 143. New Experiments on the Cultivation of Walnus Trees, 271. Twenty-five Years of Reafforestation in the Karst in Candida, 272. The Conservation of Smow: its Dependence on Mountains and Forests, 462. The Forest

of Bulgaria, 540. Percenty in China. and A New Method for the Afforestation of the Sandy Portions of the Great Hungarian Plain (Alföld), 690. Present State in Portugal, page 989. Management of the State Forests in Bavaria, 949. The Forests of Taiwan (Formosa), 1161. Experiments on the Influence of Manurea in Nurseries, 1162. The Present Conditions in Italy, page 1682. The Selection System in Forest Economy, page 1688. Law encouraging the Replanting and Preservation of Private Forest in France, 1230. The Distribution of Forests in the Natural Regions of Switzerland, page 1822. Three Forest Species of the Annamitic Range, 1349. Fork and Shovel, combined, 1071. Foufoule, 31. Fraxinus chinensis, 689. Fowls, see Poultry, Egg, etc. Frost: Convenient Conversion Table for Frost Work, 225. Methods of Protecting Fish Ponds from Frost, 286. Fruit Growing: Report on Fruit Culture in the School of Practical Agriculture at Wagnonville, 37. Promising New Fruits, 39. Pruit and Vegetables in Alaska, 136. The Passion Fruit in New South Wales, 137. The Scientific Application of Fertilizers to Trees when Planted Out, 142. Progress and Results in Germany, page 506. Horticultural Research at Woburn, 378. California Fruit and Nut Output, 420. The Use of Chemical Manures for Fruit Trees. Results of Experiments made in 1909 and 1910 by the Royal Agricultural Station of Magyarovár, Hungary, 530. The Exportation of Fruit from Portugal between 1906 and 1910, 539. Horticultural Research the Action of Grass on Trees, 811. Fruit Production and Trade in Hungary in 1911, 946. On a Graft-Hybrid

between Peach and Almond, 1045.

The Present Status of the Fruit Indu-

stry of the Dominion of Canada, page 1812. Elements for the Valuation of Fruit Trees, page 1819. European Fruit Trees in Central Madagascar 1347.

Fuller's Teasel, 135.

Funtumia: In Casamance, 31. Tests of African Rubber, 257. The Cultivation of Rubber Trees in West Africa. Funtumia elastica, 1340.

GALL-SICKNESS, 43. Gath, 33.

Geese, page 673. Genetics: see Breeding and Mendelism.

Geology, Agricultural, see Soll. Germination: Mode of Action of Weak Solutions of Electrolytes, 115. The Effect of Weak Acids, 352. Influence of Green Manuring upon Germination of Seeds, 487. Influence of Radio-activity on Germination, 656. In-

fluence of Pickling on the Germina-

tion of Cereals, 931. Goats: The Goat Shows in Goat Sheds Organized by the Chamber of Agriculture of Baden, 159. In the Kivu, 276. Studies on Contagious Agalaxa, 383. A Contribution to the Knowledge of the Length of Pregnancy in Goats, 560. Tests of the Performance of

Goats belonging to the Goat-Breeding Associations of Brüggen Haraum, Schüttorf and Wessenstedt, Hanover, 1062. Grafting: Of Portuguese Vine, page 3.

Of the Different Vine Stocks, 34, Ef-

fects Produced on the Vine by Graf-

ting, 138. Production of a New Va-

riety of Cherry by Shield-Budding, 268. Natural Root-Grafting, 794. A Comparison Between the Cuttings of Grafted and Ungrafted Vines, 808. On the Presence of Connecting Threads in Graft Hybrids, 1032. On a Graft-Hybrid between Peach and Almond, 1045.

Grapes in Panarity, 38. Research on Grapes without Pips, 377, Grane, see Pastures and Forage Grops. Gueno: The Original Chemical Composition of Peruvian Guano, 112. Philippine Guano, 113. The Produc-

tion of Guano in Chile, 1326. Guinea Grains in the Gold Goast, 332. Guizotia oleifera, Cake, 47.

Gum and Resin Plants: Recent Studies on the Production of Natural Camphor, 260.

HABMAPHYSALIS Sp., 43, 1164. Haini, 33. Hancornia speciosa, 899. Heartwater, 43.

Hedychiam coronarium, 310. Helminthiasis, 44.

Hemp: The Encouragement of Hemp Growing in France, 92. Acreage and Production in Japan, page 336. The Hemp Industry, 251. Substitute for Hemp: Assa-peixe of Brazil, 252. Re-

search on the Variability of the Sexes in Cannabis sativa, 1252. The Cuitivaction of Cowstring Hemp, 1258. See also Sisal, Phormiam Tenax, etc.

Hemeanen, 505, 938. Heredity, see Breeding, Mendellem, and Anatomy.

Heterodera in Soil. 14.

Hoves: Rubber of Hevea confusa from Buttish Guiana, 133. Rubber in the Philippines, 258. The Vitality of Hevea Seeds, 259. In Cochin-China, 333. The Yield in Java, 365. On the Existence in West Africa of Two Stable Forms of Havea brasiliensis with Different Rubber Yields, 386. Manihot and Heven, 367. Cuttings or Strapps for plenting Heves, 517. The Rebber District of the Amazon, 518.

Fapping Experiments with Heven braallimets, 1039. The Gosquiation of Heyear Latex by Smoking, 1200.

Hibisous, ap. 532, 508. Hides and Skins: The Disinfection of

Histors and Stricts Constitutes Authors Spores, 542, Countiletton on Disinfection of Hides and Fleeces containing Antrav Spores, 1200. Hoe for Beets, 402.

Hope: Fertilizing Value of Hop Bine. 790. Hop-Growing in Europe, 942 Manuring with Phonolite and 40 % Potash Salts, 1139.

Homitry, 714

Horses: The Encouragement of Horse Breeding in Brazil, 151. Number in Japan, page 336. Fracture of the Thoracic and Lumbar Vertebrae in the Horse, 275. Horses and Horse-Breed. ing. 277. Porage Rations for Growing Horses, 278. In Morocco, 387. Horse Breeding in Prussia during the Last 25 Years, 389. The Prussian Half. Bred Horse, 549. East Prussian Studs and the Supply of Horses for the Army, 550. The Shire Horse Show, 705. London Hackney Show, 706. Tho roughbred and Hunter Show, 707. The Italian Artillery Horse, 709 Marsh Ponies of the United States, 710. Horses Imported into the United States in 1912 for Breeding Purpases, 832. The Breeds of Horses in Rumania, 833, Horse Breeding in German South-West Africa, 834. Horse Breeding in Japan, page 1326. Inheritance Studies at the Royal Stud of Trakehnen (East Prussia), 1057. Crisis in Saddle-Horse Breeding in the South and South-West of France, 1958. Modifications in the Exterior Conformation of the Half-Blood Horse during Growth, in Prussia, 1175. The Inheritance of Cont Colour, 1355.

Feeding Experiments with Dried Beer Yeast for Horses, 1357. Horticaluse: In the Hungarian Budget for 1913, 94. Horticultural Exposition St. Petersburg, 103. Fruits and Vegetables in Alaska, 136. Tre Passion Fruit in New South Wales, 137. Horticultural Generose in Paris, 221. A

Substitute for Plower-pote : Tubes of Glant Reed (Arundo Donex), 265. Horticultural Research at Woburn. 378. See also, Market Gardening and Fruit Growing. Humus: Application of the Ammonium Carbonate Method for the Determination Hawaian Soils, 464. Hybridization, see Mendelism, and Breeding. Hydrocyanic acid: From Linseed Cake. 48. In Phaseolus lunatus, 245. Its

Production in Digestive conditions 1352. lygiene of Live Stock: Investigations on North American Ticks and their Control, 42. The Tick Problem in South Africa, 43. Nodular, Intestinal and Ganglionic Helminthiasis, 44. Wireworms in Sheep and their Treatment, 45. The Action of Anthelmintics on Parasites located outside of the Alimentary Canal, 46. Warble Flies, 144. Anaplasmosis in Cattle, 145. Experiments on the Efficiency of Antirinderpest Serum, 273. Fracture of the Thoracic (Dorsal) and Lumbar Vertebrae of the Horse, 274. Experimental Researcities on Liver-fluke (Fasciola hepatica EA 380.Annual Report of Veterinary Officer Investigating Camel Diseases, for the Year Ending March 31st, 1912, 381. A Note on Some Interesting Resuls Following the Internal Administration of Arsenic in Cancer and other Diseases of the Foot, in Horses, 382. Experimental Studies on Contagious Agalactia (Deficiency of Milk) in Goats and Sheep, 383. An Enquiry made in 1912 to Determine the Causes, Prequency and

692. The Internal Application of Carbolic Acid for the Prevention of Contagious Abertion in Cattle. The Relation of Granuler Vaginitie to Abortion, 693. Plants Poisonous to Live Stock in Paraguay and in Misiones (Argentina), 694. The Action of Arsenical Dips in Protecting Cattle from Infestation with Ticka, 815. The Reciprocal Relationship between Husk in Sheep and in Deer, 816. Investigations on the Toxin of Ascarids, 817. Nuttallia and Piroplasme, causing Piroplasmosis of Equidae in Transcaucasia, 818. Salvarsan in the Treatment of Surra in Horses, Dogs and Rabbits, 819. Persistence of the Virus of Hydrophobla in the Ground and exposed to the Air, and Resistance to Cold, 820. Tuberculous Poultry the Cause of Tuberculosis in Pigs, 821. Avian Tuberculosis, 822. The Anatomy of Argas persicus, 823. Systematic Ventilation of Stables, 853. The Campaign against Flies, 951. Resistance of Various Animals to Arsenic, 952. Fate of Tubercle Bacilli outside the Animal Body, 953. Modifications in the Milk of Cows suffering from Foot-and-Mouth Disease, 954. Schistosomnm turkstanicum, New Parasite of Cattle in Turkestan, 1048. On the Presence of Tubercle Bacilli in the apparently Healthy Udder Tissue of Tuberculous Cows, 1049. The Cause of Fagopyrism. A Contribution to the Study of the Fluorescent Colouring Matters in the Seedcoat of Buckwheat, 1163. Or Four New Species and Two New Va rietes of the Ixodid Genus Haema physalis, 1164. New Species of Ixodes Gravity of Rickets in Foels in West 1165. A New Species of Crotabaria Flanders: the Measures to be Taken Dangerous to Cattle in German Eas to Hinder the Spread of the Disease, Africa, 1350. 7. 541. Oxidation of the Arsenite of Hygiene, Rural: Yellow Fever and Mos Soda in Dipping Tanks, 691. Destrucquitos, 96. The Copra Itch, 97. Expe tion of the Pathogenic Agent of Footriments with Crude Carbolic Acid at and-Mouth Disease: Experiments in

Specially Constructed Menure Heaps,

Scharoldte in British Columb 98. 730 Tale 12. Relation Between Land Reclamation and Malaria, 451. The Eradication of Mosquitte by the Cultivation of Bats, 203. Experimental investigations into the Relationship between Human and Bovine Tuberculosis, 1265.

IMPLEMENTS, Agricultural, see Machi-

Hypoderma sp., 144.

. Dery. Incubation, see Poultre Indigo-growing in Japan, sege \$31. Industries of Animal Professe, see Meat, Wool, Eggs, Dairying Industries of Vegetable Products: Peanut Butter, 65. New Materials, for Paper-Making, 310. California Proft and Nut

Ouptut, 420. Insect Visitors of Boot and Mangold Flowers, 255.

Institutions, see Agricultural Institutions. Ipomoea Batatas, 246, 663. Irrigation: In the United States, 18. Of Rice in Java, 120. Irrigation Inves-

tigations at the Utah Experimental Station, 228. In the Valley of Ica, Peru, 449. Small Hill Reservoirs for Irrigation, 469. Irrigation Experiments in Brandenburg, Germany, 470. Irrigation in the South of Italy and in Sicily, page 827. Irrigation on the Southern Side of the Pyrenees, 647. Irrigation in Egypt and the Nile Dams, 781. Irrigation on Narrow

Stripe, 782. Irrigation Experiments at the Experimental Farm of the Royal-Imperial College of Agriculture at Gross-Enzersdorf (Austria), 915. Irrigation Experiments with Brackish

Water, 914 Categotion Resources in California and their Utilization, 1137. The Murrumbidgee Irrigation Scheme

in New South Wales, 1138. 43, 1164, 1165. ALT I

LACK BEAM, 499. Japanese Median see Loquet. Jatica, 663. Jatrophe cureas, 200 Java Beans, 245. Jequirity, 262. Jecsey-Angus Cattle, 279. Jugians sp., 271.

KAAPII-AHIHI, 694. Kalkutta erbec, 47. Kanarisol, 516. Kapok: In Italian Somaliland, 203, The Cultivation of Kapok, 507. The Kapok Industry, 1149. The Kapok Tree in Toge, 1337.

Karskel Sheep, 282. Keresi, 33. Kerguelen Cabbage, 264. Kerkyraiki, page 502.

Khari, 127. Kien, 1037.

Kitaiti, 663 . Knypers, Defect in Edam Cheese, 1293. Kekui, 515.

Labour: see Cultivation, and Rural Ecomomy. Lactopulp, 147.

Landolphia: In Casamance, 31. In the North of Madagascar, 132. In the Congo, 368.

Lateritization of Soil, 777. Lathyrus sativus, 47.10 Lavender, 1155, 1156.

Lead Salts: Influence on Wheat, 789. Legislative and Administrative Measu res: Decree approving the Regulation of the Brazilian Government Stations of Sericulture, 1. Horticulture in the Hungarian Budget for 1913, 94. The Encouragement of Flax, Hemp and

Olive Growing in France, 92. Regula-

lations for Cattle Sales on a Large

Scale in the La Villette Market, Paris, 93. Growth and Usefulness of the Publications Work of the U. S. De partment of Agriculture, 95 Govern ment Crop Reports: Their Value

331. The Administrative Measures teken in Holland in Favour of Cattle Breeding, page 667. The Project of the Reclamation of the « Puszta Hortobagy n, 441. A Ministerial Decree of November 30, 1912, regarding the Promotion of Rabbit Breeding in Prussla. 442. Proposed Law on the Production of Wine and on the Wine Trade in the Republic of Urugusy, 443. Encouragement to Farming and Stock Breeding In the State of Colima, Mexico. 444. Project Relating to an Official Register of Selected Plants in Hungary, 624. Regulations governing the Preparation, Sale, Barter, Exchange, Shipment and Importation of Viruses, Serums, Toxins, and Analogous Products intended for Use in the Treatment of Domestic Animals, 898. Decrees Establishing Experimental Stations for the Investigation of Manihot and Hancornia speciosa in the States of Bahla, Plauhy and Minas Geraes, Brazil, 899. Decree and Order relating to Agricultural Instruction under the Departments and Communes in France, 1016. An Act to Regulate the Size and Description of Cases used in the Sale and Export of Fruit and for purposes incidental thereto. Queensland, 1015. Law of July 2, 1913, Encouraging the Replanting and Preservation of Private Forests in France, 1230. Swiss Law of June 9, 1913, concerning the Control of the Commerce in Manures, Feeding Stuffs, Seeds and other Products useful to Agriculture and Allied

Industries, by the Federal Stations of

Agricultural Experiment and Analy-

sis, 1313. Reorganization of the Su-

perior Council of Agriculture in Fran-

ce, 1314. Law and Regulations render-

Scott see Properation, 202. Italian

Law for the Protection and Increase

of the Production of Live Stock in the

Country, 330. Institution of a General

inspectorship of Agriculture in Tunis,

ing Attendance at Local Enternates Schools Obligatory in the Province of Brandenburg, Pomerania, Saxony, Schleswig-Holstein, Westphaffia, in the Rhine Province and in Hobergoliern Territory, 1315. See also, Encouragement of Breeding.

Lespedeza striata, 125.

Lettuce, 374, 807.

Light: The Intensity and its Effects on Vegetable Assimilation, 351. Action on the Growth of Seed Beets, 363. The Assimilating Energy of Plants Cultivated Under Different Light Intensities, 922. Ligata simplicissima, 399.

Lima Beans, 245, 449.
Lime: The Action of Quicklime on the
Soil, 111. Agricultural Value of Carbouate of Lime recovered from Causticing Plant, 232. Lime Rich in SIlica as Manure, 787. The Relation of
Lime to Magnesia in Soils, 788. The
Possibility of Using Crude Phosphates

nures, page 4316. The injurious Ettects of Large Doses of Lime on Moor Soils, 1243. Limes, see Citrus. Linseed: Hydrocyanic Acid from Cake, 48. Lithium, influence of Salts on Wheat.

and Limes containing Silica as Ma-

Liverfluke, 380.
Lombiro, 132.
Loquat: The Cultivation of the Japanese
Medlar, 536.
Lotus corniculatus on Alkaline Meadows,

789.

15.

Luc Binh, Measures for the Destruction in Indo-China, 333. Lucerue: Experiments in Growing Lucerne of Various Origins in Denmark, 123. The Exportation and importation

of Clover and Lucerne Seed into Hungary in 1910-11 and 1911-12, 124. In Italian Somaliland, 203, Non-perennial Medicagos: the Agricultural Va-

the and Botanical Residentify of the Species, 500: Keeping Soft Carrings alive for long periods, 502 Lupins : Calcium as an Antibuda to

certain Nutritive Sales in Water-cultures of Peas and Lupins, 654.

Machinery and Implements, Agricultural: The Use and Cost of Electricity in Agriculture, 54. Trial of a Dodenhof-Meyer Manure Distributor, 166. Spraying Machines in Malaysia, 168. A Milking Machine at the Central Competition at Amiens, 169. Testing

the Wallace Milking Machine, 170. Exhibitions of Machines with Combustion Motors, 213. Agricultural Show and International Exhibition of Automobiles and of Industrial and Agricultural Motors, 216. Report of the Machine Experiment Station of the Agricultural Association of Prussian Rhine-

land on the Potato-sorting Machine "Diadem No. 1 », 290. Hand Power Separator « Lacta 2 », 201. A New Machine for the Extraction of Rubber from Bark, 292. Comparison of Source of Mechanical Power in Agriculture,

400. A. New Dynamometer for Steam Ploughs, 401. Hand Hoe for Beets, 402. The Praener Drill, 403. The Present State of Milk-Drying Technique, 404. The Use of Agricultural

Implements in Japan, page 689. Trial of Bone-Mills, 561. Observations on Traction Engines, 564. « Case » Steam Traction Engine, 565. Report on Clear-

ing Land from Tree Stumps by Means of Steam Plough Engines, 566. Tilling the Soil at One Operation, 568. A New Machine for Extracting Sisal Flomp Fibre, 589. New Sampler, 570.

The «May» Milking Machine, 871. A new Rapid Milk Beller with Gooling Apparatus to: Continuous Work, 573. The Present State of Motor Cul-

tivation in Germany, page 852. New Cultivator, 724. Trials of Mechanical

PROCESSEE THAT WE SAID AND MAKEN Garde (Algeria), 725. The Use of Mechanical Power in Agriculture, 726

Agricultural Machines at the Machine

Exhibition in Park in 1913, 728, Ma. - for Power Cultivation with only one Winding Drum, 729. The Mesman

Tractor, 780. Trials of Motor Tractors hi Algiere, 842. Patent Implement for Singling Beets, 844. The Roller and

Packer, 845. A Hand Grain Thrasher 846. American Gereal Eslecator, 847. Ventilities for Chaff Cutting Machine.

built by Wilhelm Graf, Machine Works, Karbsruhe i. B., 848, Trial of a Moal and Groat Mill, «Unic

No. 2 ", and Attached Sifter of A. Fishinger's I. Styrian Milling Machinery

Works in Graz, 849. Testing the

Hourty Performance of the Hand Centrifugal Milk Separator (« Balance

No: 61 » for 225 "litres) of Holler's Carlshutte Factory in Rendsburg, 850. Temperature Regulator, 851. The De-

velopment of Agricultural Machinery during the last 25 Years, 968. Conpetition of Machines for Tilling the

Soil, at Chulmitza, Rumania, 969. Tie Competition of French Beet-lifting Machines, 970. The Pilter Tracker,

971: Meyenburg's Motocultivator, 872. Portable Wheat Esiccator, 973. Continuous Drying Apparatus for Agricultural Industries, 974. Trial of t

Groat Mill, 975. Apparatus for Smoting Meat etc., 976. Engines and A grieukural Apparatus Exhibited at the Show of the Royal Agricultural Society

held at Bristol, 1913, 1064. The Mr chines and implements at the Exhibition of the German Agricultural Seelety at Strassburg, 1913, 1069. This of a New Self-guiding Two-Wheth

Plough with Subsoiler, 1066. Reinfor ced Concrete Rollers for Use on Morland Soil, 1967. Trial of an Bight-Fox

Grass-Mower, 1968. Trial of an As tomatic Product for Threshing-Made

Pork and Sho rel. 1071. Hour Plough Competition at Königeberg, 1187. An Egyptian

Water-lift, 1168. Automatic Drinking Trough for Pigs, 1189. A New Appa-

rams and Method for Milk Sterilization, 1190. Development and Present State of Agricultural Machinery, 1277.

Transport of Grain in Granaries, 1278. Trial of a Draught Regulator for Winnowers, 1279. Trial of a Groat Mill,

1280. Trial of a Small Steam Cream-Pasteurizer, 1282. A Handy Feed Hopper, 1283. Competition of Beetroot Lifting Machines in France, 1366. Ver-

mont-Quellennec Rotary Digging Machines, i367. Apperatus for Lifting Straw for Thatching Stacks, 1369. Allalla-curing Device for Rainy Countries, 1371. A New Instrument for

Tapping Castilloa, 1373. Review of Patents, 564, 563, 731, 852, 977, 1076, 1284. Med. 31.

Magnesia: The Relation of Lime to Magnesia in Soiis, 788.

Maize: Maize Distillery Residues as a Feed for Milch Cows, 155. Acreage and Production in Japan, page 336. In italian Somaliland (Benadir), 203. A

Variety of Malze With Silks maturing before the Fassels, 355. Heredity of a Maize Variation, 490. The Relation of certain Ear Characteristics to Yield in Corn (Maize), 491. Sugar

Production from Maize, 512. Preliminary Report on Effect of Close and Boad Breeding on Productiveness in Maize, 927. Selection of Maize in Hungary, 928. Inheritance of certain

Forms of Chlorophyli Reduction in Com Leaves, 929. Inheritance of the Ligule and Auricles of Corn Leaves. 930. Contribution to our Knowledge on the Influence of Sugar-cane Cultivation on the Productivity of the Land

aki, 133.

when put under Maize and Rice, 1259.

Malaria The Relation between Land Reclamation and Malaria, 451. Malignant laundice, 43.

Mandiasos, 31. Mandioquinha, 358.

mals, 824.

Manganese : Agricultural Study on Manganese, 226. Experiments on Vines with Manures containing Manganese, 266. Research into the Amount of Manganese Present in the Bodies of Ani-

Mangrove: Importation into Germany from the German Colonies, 335. Australian Mangrove Bark, 379.

Manihot: in Casamance, 31. Ceylon Rubber, 133. Rubber in the Philippines, 258. Manihot and Hevea, 367. In West Africa, 673. Method of obtaining

Tail-Growing Trees of Manihot Glaziovii, 674. Decrees Establishing Experimental Stations for the Investigation of Manihot in the States of Bahla, Piauhy and Minas Geraes, Brazii, 899. Enquiry on Manihot planhyensis, 1040. The Cultivation of Manihot Glaziovii

in the Beigian Congo, 1341. Manioc Roots and the Residues of their Eiaboration, 1173. Manjacques, 31.

Mantianpo, 31. Manures: Availability of Nitrogen in Or-

ganic Ammoniates, 19. The Fertilizer Trade in the Netherlands, 20. Phosphates and Nitrates in Egypt. Their Importance to European Agriculture, 21. The Original Chemical Composition of Peruvian Guano, 112. Philip-

pine Guano, 113. Trial of a Dodenhof-Meyer Manure Distributor, 166. The Composition of Russian and Foreign Fish Manures and of other Manures of Marine Origin, 231. Agricultural Value of Carbonate of Lime recovered from Causticising Plant, 232. Distri-

butors for Solid and Liquid Manures, 289. The Changes in Soil, due to Manuring, 345. Efficiency of Soluble Manures in Dry Years, 346. Fertilizers

a Manurial Agent, 474. The Effect of Sulphate of Ammonia on Phosphatic Manures used for Quis, 475. The Rolative Manufal Value of Nile Water and Sawage, 479. Soil Improvement near Rome, 481. Commercial Salt as a Fortilizer for Sugar Beets, 870. The Industries of Lithium, Zinc and Lead Salts on Wheat, 789. Annual Report for 1912 of the Consulting Chemist, 790. The lajurious Effects of Large Doses of hime on Moor Soils, 1243. The Consumption of Chemical Manures in the German Colonies, 1250. Swiss Law concerning the Control of the Commerce, 4343. Use of Chemical Manures in Cyprus, 1327. Manures, Parmyard: Experiments on Manuring of Sugar Beets, page 348. The Use in Canada, 347. Thirteen Years of Experiments with Farmyard Manure at the Askow Experiment Farm, 1808-1910, 783. Manure, Green: Acreage and Produc-

tion in Japan, page 336. Experiments on Manuring of Sugar Beets, page 348. Sophora glauca as Green Manure, 1044. The Residual Nitrogen from Green Manure in Sandy Soil as determined by Vegetation Experiments, 1244. Manures, Nitrogenous: Availability of Mitrogen in Organic Ammoniates, 19.

Nitrates in Egypt, 21. Experiments on Manuring of Sugar Beets, page 349. The Effect of Salphate of Ammonia on Phosphaela Manures, 475. The General States of the Nitrate Trade in 1912 and in the Beginning of 1913, 785. Cyanamide, Dicyandlamide and Nitrolime, 786. Mixed Dressings of Calcium Cymanside and Nitrate of Soda : Results obtained in Sweden, 1027. Experiments with New Nitrogonom Manures at Experiment Station of Stockholm, page 1677. General

grps, 21. Asperiments on Manurine of Sugar Bests, page 350. Effect of Sulphate of Amesonia on Phosphatic Manures 476 The Soluble Silicic Acid in Basic Slog and its influence upon the Determination of Citric-So-Juble Phosphoric Acid, 476. Experiments with Phosphatic Manures in Uruguay, 1907-1912, 653. Action of Fermenting Manupe on Reinforcing Phosphates, 784. New Experiments on the Utilization of Phosphates in Russia, 918. The Phosphate Question in Tunis, 919. Consumption of Superphosphates in Hungary, 920. The Possibility of Using Crude Phosphates and Limes Containing Silica as Manure, page 1316. Present Condition of the Mineral Phosphate Industry at Curacao (Dutch West Indies), 1029. Experiments with Phosphatic Manures a Stockholm, page 1679. The Development of the Phosphate Industry in Egypt, 1246. Relative Composition of Different Samples of Basic Slag, 1247. Manures, Potash: Experiments on Manuring of Beets, page 350. The Secondary Effects of Phonolite, 233. A Potash Salts Deposit in the United States of America, 348. The Use of the Phonolite of the Bohemian Mittel Gebirge as a Fertilizer, 349. The Va lue to Plants of Potash Derived from Felspers, 477. The Absorbing Power of Some Silicates of Potassium, 1028. The Possibility of Replacing Stassfull Potash Salts by finely Ground Phono lite, Loucite, etc., page 1483. Com

parative Manuring Experiments with

Crushed Phonolite and 40 per cent

Potsah Salts, 1139. Petash Deposits

of Atmospheric Nitrogen, 1249. Manures, Radioactive : Catalytic Rais

in India, 1248. The Decomposition of Foldspar and its Use in the Firstin

Munuting The Lifest on the Composition and Kinesting Properties of Rye and Wheat, 25 han for a Fruit Ground wer's Fortilize, 38. Of Cotton in

Exponents

wer's Portifice, 38. Of Cotton in Lonisians, 125. Of Tobacco, 134. Vinevards with Tobacco Refuse in Hungary, 139. The Scientific Application

of Fertilizers to Trees when Planted Out, 142. Of Sugar Beets, page 348. Experiments on Tobacco in Hungary, 261. Manufes for Vines, 266. Of Cacuo, Experiments in Dominica, 270.

The Profitable ress of Artificial Manuring 295. Of Oats, 475. Manuring Experiments in German East Africa, 480. Influence of Green Manuring upon Germination of Seeds, 487. Manuring Experiments with Sugar Beets in Hungary, 511. Fertilizer Experi-

ments on Peaty Meadows in Hungary, 917. On Cotton in Italy, 1035. Manuring of the Carob, 1047. Comparative Manuring Experiments with Crushed Phonolite and 40 per cent. Potash Salts, 1139. Results of Drilling

Manures in Hungary, page 1696. Eftect of Certain Artificial Manures on the Bushel Weight of Oats, 1329. hargaropus annulatus, 42, 145.

farket Gardening: Fruit and Vegetables in Alaska, 136. Some New Kitchen Garden Plants for 1913, 374. Horticulture in 1913, 522. Experiment Field for Strawberries at Reitalu, Hun-

Horticulture in 1913, 522. Experiment Field to Strawberries at Réifalu, Hungary, 678. New Kitchen Garden Plants, 807. The Horticultural Industry at Chent, 943. Recent Progress in Belgian Horticulture, page 1321. On an Alliam from the Mediterranean

Region wich might be used as a Vesetable, 1157. The Present State of Japanese Horticulture, 1346.

arram Grass, 310.

arsdenia verrucosa, 132.

ascarenhasia sp., 132.

Matsiri, 33.

Mate Export in 1910 from Brasil, 387.

Meadows, see Pastures, Meat: Regulations for Cattle Sales on a Large Scale in the La Villette Mar-

ket, Paris, 93. Prices of Meat in the Argentine, New York and some European Cities, 177. Importation of Cattle

and Meat from the Argentine to Ruly, 178. The Dead Meat Trade, 179. The Sale of Cattle for the Butther and

the La Villette Market, 180. Cost of Making Beef, 296. A Contribution to the Question of the Physiological Occurrence of Bacteria in Sound Meat,

303. The Pork Trade in the Argentine, 304. The Jeked Beef Industry in Argentina, 415. A Method for the Deter-

mination of Starch in Meat Food Products, 416. The Slaughter of Cows In Calf and its Influence on Beef Production, 554. The Supplying of the Franch Meat Market, 595. Pregnant Animals slaughtered in Germany in

1913, 596. The Cattle Market and

Cattle Trade at La Villette in 1912,
748. The Reorganization of the Cattle
and Meat Trade in France, 870. Apparatus for Smoking Meat, 976. Twelve
Months' Meat Supply of the United
Kingdom (1911-12), 1089. The Origin
of the Industry and Trade of Cold-

Stored Meat, especially in the Argentine Republic, 1090. The Consumption of Meat and Milk in Japan in 1911, 1198.

Meal, see Milling Medicago sp., 500.

Medicinal Plants: The Anatomy of « Jequirity » (Seed of Abrus precatorius) and of the Seeds commonly used as Adulterants, 262. Study of the Castoroli Plant, 1152. Cultural Experiments

with Medicinal Plants at Korneuburg, 1155. Cultivation of Lavender in the South-East of Prance, 1156. The Cultivation of Buchu, 1344. The Importance of the Cultivation and Preparation of Medicinet Plants, particularly in Hungary, 1345

Mondelism: Mendellan Methods applied to Apiculture, 162. The Progress of Mendelian Studies in Great Britain,

page 497. Mendelism and Interspecific Hybride, 700. Maternal Inheritance and Mendelism, 829. Merino, see Sheep.

Meteorology: Electric Niagaras in Recent Thunderstorms, 107. The Present Organization of the Service in Italy,

page 342. A Method of Approximating Reinfall over Long Periods and Some Results of its Application, 224. Effi-

ciency of Soluble Manures in Dry Years, 346. Meteorology in Canada, 463. Weather Forecasting and Sun Spots, 642. Meteorological Conditions in a Field Crop, with a Description of two Simple Recorders, 643. Evaporation from a Free Water Surface at

Present Condition in Brazil, page 1313. The Agricultural Meteorological Service in Germany, page 1667. The Organization of the Meteorological Service in Hungary, page 1806. The Distribution of Atmospheric Impurities in the Neighbourhood of an industrial City, 1321.

Lincoln, Nebraska, 909. Evaporation from a Plain Water Surface, 910. The

Microbiology, see Bacteriology and Soil Organisms. Milk: The Importance of Infections Catarrh of the Vagina in the Control, 60. The Use of the « Gar-Reductage » Test

in Conjunction with the Usual Milk Tests as a Basis for the Price of Milk in Cooperative Dairies, 176. The Pre-

servation of Milk Samples for Analysis, 299. Biological Method of Testing the Quality of Milk, 300. Exports from Denmark in 1912, 336. The Influence of the Stage of Lactation on the Com-

A New Bapte Note Buller with Cont ing Apparetus for Gentinuous Von 573. The Effect of Freezing upon the Composition of Milk, 584. The Com-

position of Ewes' Milk in Hungary Analytical Results from the Municipal Laboratory, of Agricultural Chemistry at Kecskemet, 585. Reactions for Dis-

tinguishing Fresh Milk from Bolled Milk, 590. New Method of Freein, Milk from Germs, 743. Chemical Changes Produced in Cows' Milk by Pasteurization, 863. A Study of the Bacteria which Survive Pasteurization

864. Analysis of Buffalo Milk, 991 . A Study on Milk and Cheese in Gree ce, page 1335. Researches Respectin the Boron Content of Milk and Eggs 1052. The Calorific Value of Milk is Relation to its Price and its Nutritive Value, 1083. Micrococcus mucola

Milk, 1084. The Classification of Lacti Acid Bacteria, 1085. A New Apparatus and Method for Milk Sterilization, 1190 A Practical Formula for the Calcula tion of the Solids not Fat in Milk 1195. The Specific Gravity of Cow's Milk and the Change it Undergoes Shortly After Milking, 1196. The Con-

ciens, New Bacterium of Ropy, Slim

sumption in Japan, 1198. Investiga tions into the Solubility of Milk Pro teins, 1292. Lobeck's Biorisator Pro cess, 1389. Milk Dryng Technique, 404.

Milking: A Machine at the Central Competition at Amiens, 169. Testing the Wallace Machine, 170. The Mar Milking Machine, 571. The a Unital bar » Automatic Milk Measurer, 572 Trial of the Lawrence-Kennedy-Gillis

Milking Machine at the Live Stock Institute at Reggio Emilia (Italy), 1072. Milking Machines : Effect of Machine Method of Milking upon the Mil Flow, 1073. Milking Machines the Sterilization and their Efficiency producing Clean Milk, 1281.

position and Properties of Milk, 391. On the Forms Assumed by Phosphorus and Calcium in Milk Casein, 414.

willet: Acreage and Production in Japan, page 336. filling: Wheat Investigations in India. 357. The Content of Soluble Nitrogenous Substances as a Criterion of Flour, 605. The Chemical Composition of Sharps and Bran, 606. Influence of the Environment on the Milling and Baking Qualities of Wheat in India, 661. Wheats from the British Miller's Point of View, page 1165. Trial of a Groat Mill, 1280. Moors: Butz' Drains in the Peat Moor near Bernau, 229. Grazing or Stall-Feeding on High-Moor Farms, 294. Fertilizer Experiments on Peaty Meadows in Hungary, 917. Reinforced Concrete Rollers for Use on Mooriand Soil, 1067. The Question of the Inoculation of New Crops on Moor Soil. 1135. Moor Cultivation in Austria, page 1672. The injurious Effects of large doses of Lime on Moor Soils, 1243. Watering Place on Moor Pastures, 1286. losquitoes, see Hygiene, Rural. lotor-Cultivation, see Machinery. lowrah Meal, 384. lacuna prariens, 1334. lulberry: Acreage and Production in Japan, page 336. The Cultivation of Mulberry Trees in Madagascar, 267. lules: The Breeding of Mules for the Market in Missouri, 162. In Morocco, 387. The Poitou Mares of France, 711. Mule Breeding in Poitou (France), 1358. usa, Classification of the Genus, 947. usa textilis, 27.

utation, see Selection, and Botany,

agaras, Electric, in Recent Thuder-

Agricultural.

storms, 107. gerkuchen, 47.

10-rupá, 676.

yopofum serratum, 688.

APIER'S FOODER, 499, 1255.

tion in the Soil by Microorganisms 110, page 336. Nitrogen Enrichment of Soils, 474. The Price of Nitrogen, 652. The Decomposition of Feldspar and its use in the Fixation of Atmospheric Nitrogen, 1249. Nuttalia and Piroplasma causing Piroplasmosis of Equidae in Trauscaucasia. OAK, see Cork. Oats: The Chemical Composition of the Oat kernel, 116. How Thickly Should seed be sown on Mountain Farms?, 241. Comparisons of Yield between Hybrids and Selections in Oats, 354. investigation of the Reistion between Anatomical Structure and Physiological Characters in Oats, 356. The Work of Plant Breeding at Svalof, page 844. Effect of certain Artificial Manures on the Bushei Weight of, 1329. Oll Crops: Baobab Qil, 256. Export of

Palm Oil from the Cold Coast, 332.

Importation of Palm Oil into Germa-

ny, 335. The Extraction and Use of

Kukui Oil, 515. Canarium polyphyl-

ium: a New Oil Fruit from German

New Guinea, 516. Cohune Nuts from British Honduras, 1038. Contribution

to the Study of the Castor-oil Plant, 1152. Wood-oil Trees of China and

Olive: The Encouragement of Olive

Growing in France, 92. Irrigation of

Olives and Its Effects, 140. The Con-

dition of the Olive Groves in the Lepino-Pontine and Venatro (Campo-

Japan, 1339.

Nips Aicohol in the Philippines, 604

Nitrates, see Manures, Nitrogenous.

Nitrification: The Influence of a Prece-

ding Crop on Nitrification in Soil,

344. The intensity in Arid Soils, 465.

Cupric Treatments and the Nitrifica-

Nitrogen: Availability of Nitrogen in

Organic Ammoniates, 19, Accumula-

tion of the Soil, 911.

6 ac. 2

bassed Zones, 537. The Gratique and Expertation of Green Tunisian Table Olives, 685, Olive Growing in Tunis, 1046. The Present State of Olive Growing in Italy, page, 1496.

wing in Italy, page, 1496.
Onion, Red Globe, 374.
Orange: Thomson, 39. Economics of
Orange Growing in Spain, page 164.

ais, 269.
Ostrich: Farming in German West
Africa, 965. In America, 1063. In
Australia, 1184.

Washington Navel Orange in Rhode-

PALM Oil, see Elesis and Oil croops.
Palms: The Uses of Roystonea regia,

Palms: The Uses of Roystonea regia, 141. Carludovica palmata in Brazil, 373. Packing of Fruits and Vegetables: Exhl-

bition in Paris, 101. Keeping soft Cuttings alive for Song Periods, 502. An Act to Regulate the Size and Description of Cases used in the Sale and Export of Fruit and for purposes in-

cidental thereto, 1015.

Papaya: The Grafted Papaya as an Annual Fruit Tree, 813.

Paper Making. New Materials for, 310.

Parkinsonia aculeata, 203.

Parsies, Dwart extra curied, 807.

Passion truit in New South Wales, 137.

Passing fruit in New South wates, 101Passings: Researches on Alkaline Meadows, 15. An Application of the New
Pedological Knowledge to Grasslands,
106. Three Years' Returns of the Coo-

perative Association's Pasture at Kleimmurhlingen, 408. Pasture Problems: Drought Resistance, 664. Fertilizer Experiments on Peaty Meadows in Hungary, 917.

Patents see Machinery.

Patissiotiki, page 502.

Peach: Russel, 39. In Germany, page 509. The Peach in the South-East of France, 533. On a Graft Hybrid be-

tween Peach and Almond, 1045.

Pean: Lorette's pruning, 37. Ayer Pear,

39. In Germany, page 506, Bartlen Pear Precooling and Storage Investigations in the Rogue River Valley

534. Gratting Pears, 686.

Pears: Calcium as Antitoxin to certain
Nutritive Salts in Water-cultures of
Pears, 654. Express Mangetout; Mammoth, Writakled, 807.

Pepper Production and Trade in Stam, 677. Perilla cake, 47, 384. Phaseoins lunatus Beans, 120, 245, 449. Phasmid, 1354.

Pennisetum purpureum, 499, 1255.

Phonolite, see Manures, Potash.

Phormium tenax, 251, 334, 506.

Phosphates, see Manures, Phosphatic.

Physiology, Animal: see Anatomy.

Physiology of Plants, see Chemistry.

Physiology of Plants, see Chemistry,
Physiology

Pigeons, Diphtheria, 51.
Pigeon Pea (Cajanus indicus), 1143.
Piges: Number in Japan, page 336. Pig
Feeding by means of Automatic
Troughs 283. The Pork Trade in the

Feeding by means of Automatic
Troughs, 283. The Pork Trade in the
Argentine, 304. A Pratical flooring for
Pig Styes, 405. The Improvement of
the «Mangalicza» Breed of Pigs in
Hungary, 559. Comparative Feeding

Experiments with Hominy and Barley for Pigs, 714. Fattening of Pigs with the Automatic Feeder, 715. An Experiment in Pig Feeding and Fattening on Sugar Cake (Brand B.), 716. Fattening in Nebraska, 717. Experiments with Pigs, 838. The Utilization of Skimmed Milk and Potatoes by Feeder

ding to Pigs, 964. Irish Pig-Feeding
Experiments, 1061. Results of lavestgations on Heredity in Pigs, 1288.
Experiments on Pig Fattening in Prusgia with Automatic Feeder or Common
Trough, 1270. The Value of Possos

ss a Principal Pig Food, 1271.

Pines: The Extraction of Resin inn

Pines in Corsica, 814.

Pinheiro brate, 41. pinus pinaster, pines, maritima, 41. piroplasma, sp. 42, 145, 543, 818. Pisciculture, see Fieli.

Pisam arvense, 486. Ploughs: Watzi's Regulator, 288. A New Dynamometer for Steam Ploughs.

401. Motor plough, 562. Friser plough. 563. Certani's Subsoil Plough, 567. Eckert's Plough Wheel Nave, 843. Motor Plough Competition at Galanta

in Hungary, 1364. The Motor Plough Competition at Parma, Italy, 1365. Pinns: Laire and Montcelt, 39. in Germany, page 509. The Reine-Claude

Green Gage, 536. The Plum Industry

in Servia, 812. Plum Brandy. Improvements in its Manufacture, 1204. 'otato: Cultural Bud Mutations of So-

lanum immite Dunai, 23. New Species of Potato from Peru, 24. Acreage and Production in Japan, page 336. Potatosorting machine, 290. The cultivation of Potatoes nuder Irrigation in the

Neighbourhood of Athens, 501. Modi-

fication and Mutations of Tuberous Plants, 655. Potato breeding in Germany, page 985. The Present State of the Potato Drying Industry, page 1342. The Value of Potatoes as a Principal Pig Food, 1271. Potato Drying Plant, 1372.

otu Dámbaia, 245. oultry: Fourteenth international Exhi-

bition in Paris, 13. Researches on Diphtheria in Fowls and its Connec-

tion with Diphteria in Pigeons and with Fowl-pox, 51. Egg-Laying Obm-

petitions at the Hawkesbury Agriculfural College, 52. Chicken-Rearing on an Intensive System, 160. Poultry in Japan, page 334. Number of Powls

in Japan, page 336. In the Kivu, 276. The Inflüence of Selection on the Size of Fowls'Eggs, 284. Farm Flock Poultry Competition, 285. The Poul-

try Tick, 397. The Poultry Industry in Great Britain, page 673. Amalgama-

tion of the Poultry Stations in So Australia, 636. A Comparison between Natural and Artificial Incubation, 718,

Experimental Work in Artificial Incubation, 719. Tuberculosis, 821, 822. Further Report on Egg-Laying Competition in the Rhineland, 839. Irish Egg-Laying Competition, 1st October

to 31st December 1912, 840. Castration in Relation to the Secondary Sexual Characters of Brown Leghorns, 958. The Presence of the Bar-

red Plumage Pattern in the White Legborns Breed of Fowls, 1053. Fourth Egg-Laving Competition in Tasmania. 1183, Methods of Pattening, Dressing and Marketing Poultry, 1272. Feed

Hopper in Fowl-house, 1283. Precipitine Reactions applied to Seed Identification, 117. Prickly Pears for Alcohol Production: Pringlea antiscorbutica, 264.

Pruning: Methods adopted by M. Lorette, 37. A New Method of Pruning Young Vines, 376. Winter Pruning of Stocks Preparatory to Grafting on the

Spot, 523. Prunus avium, 269. Pulps: Use of Vindobona Puip on a large Scale for the Ensilage of Sugar beet Pulps, 147. Pulse Crops: Phaseolas lanatus Beans,

245. Seeds and Flour of Dolichos multiflorus, 1334. Pump for Farm Work, 1075. Pustzta Hortobägy, Scheme for reclaiming, 441. Pyrethrum, 372.

QUERCUS sp., 41.

RABBIT: Promotion of Rabbit Breeding in Prussia, 442. The Effect of X-Rays upon the Development of the Ovary

of the Rabbit, 723. Salvarsan in the Treatment of Surra, 819.

Radioactive Manures, 350.

Radionctivity, influence on Garantization, 636.

Radiones: Acreage and Production in Japan, page 336. Oval White summer Radion, 807.

Rahar (Cajanus indicus), 1143.

Rain: A Method of approximating Rainfall over Long Periods and some Results of its Application, 244. Effect of Late Rain upon the composition of Beets, 509. The Correlation of Rain-

Rainiala, 256. Ramie, 249. Raumia, 508.

fall, 1322.

Rangoon beans, 245.
Rape seed: Acreage and Production in Japan, page 336.

Rauwolfia vomitoria, 371.
Reafforestation, see Forestry.

Reclamation: Scheme for reclaiming of Puszta Hortobagy, 441. The Relation Between Land Reclamation and

tion Between Land Reclamation
Malaria, 451.

Red Bean, page 226, 245.

Red tick, 43.
Reductase, test in conjunction with the

Usual Milk tests as Basis for the Price of Milk, 176.

Redwater, 43.
Refrigeration see Cold Storage.

Reiabo, 132.

Reindeer, Domesticated, in Newfoundland, 1186.

land, 1186.
Rennet, the Extimation of the Efficiency

of commercial, 587.

Rhynchosia precutoria, 262.

Rhipicephalus appendiculatus, 43.

Rhipicephalus appendiculatus, 43. Rhus vernicifera, 689.

Rice: Culture in the Philippines, 27.

The Cultivation in June, 120. The Cul-

tivation with the Help of Machines, 121. Acreage and Production in Japan, page 336. Rice Growing in Louisiana,

244 Bars concerning Varieties of Rice, 1905 Foosibility of the Development of Rice Growing in Argentina, 497.
Cleaning any and the Possibility of

Cross tertilization 057. Notes on Pollination and Cross Fertilization in the Common Rice Plant, 933. The Culti-

vation of Rice with the Help of Machines, 934. Carp Breeding in Rice Fields in Italy page 1332. Influence of Sugar-Cane Cultivation on the Pro-

ductivity of the Land When put under Maize and Rice, 1259. Rollers, see Machinery and Implements

Rolers, see machinery and implements, Root Crops: Yam Growing in Jamaics and in Queensland, 246. A Good Tuber Plant: Arracacia xanthorrhiza, 358. The Sweet Potato and its Cultivation.

663. See also Turnip, Potato, Beet, etc. Root Lifters, see Machinery and Implements.

Roystonea regia, 141.

Rubber: The Composition of Soil Suitable for Rubber Cultivation, 16. Rubber in Casamance, Senegal, 31. The Nitrogenous Constituent of Para Rubber and Its bearing on the Nature of

Synthetic Rubber, 131. Contribution to the Study or Rubber in the North of Madagascar, 132. Rubber Examined at the Imperial Institute, 133. Tapping Rubber trees by Electricity, 167. Rubber Congress of Batavia, 219. Tests of African Rubber, 257. Rubber In the Philippines, 258. New Ma-

chine for the Extraction of Rubber from Bark, 292. Export from the Gold Coast, 332. Importation into Germany from the German colonies, 335. Technological Study of the Congo Varleties of Rubber, 368. Iquitos, and the Tributary Region, the Rubber Dis-

vation of Rubber Trees in West Africa.
673. Plantation Rubber in Hawaii,
1153.

Rumet Acetosa, Research on the Variability of the Sexes, 1252.

Rural Economy: Measures adopted in Switzerland for the introduction of Agricultural Book-Keeping into the Peasants Farms, page 13. The Capi-

effection Value of Real Estate, 55. Farming Problems according to Working Expenses and Difference of Net Returns, 56, The Work of the Office of Farm Management, of the United States Department of Agriculture, 57. Changes in the Manner of Farming in the Rhine Country, and their Causes. 58. The Remedies for Rural Depopulation in Great Britain, 59. The Standing Working Capital in one Hundred Farms in Silesia, 171. Wages of Farm Labour in the United States. 172. Grazing or Stall-Feeding on Hinh-Moor Farms, 294. The Profitableness of Artificial Manuring, 295. Cost of Making Beef, 296, Land Valuation, 297. The Limit Value of the Means of Agricultural Production as Basis for the Calculation of the Economical Limit of Cuttay, 406. The Profitableness of Hoed Crops, 407. Three Years' Returns of the Cooperative. Asociation's Pasture at Kleinmühlingen In Anhalt, 408. Native Labour in Tunis, 409. Types of Farming in relation to Distance from Market. 577. The Sizes of Agricultural Holdings in England and Wales in 1911 and 1912, 578. Determining the Price of Sugar Beets in France, 579. Ten Years' Returns of a Cherry Orchard in Holland, 580. Scheme of Prizes for Best Managed Small Holdings. Suggestions to Competitors, 581. Dairying versus Fattening, 582. The Installation and Accounts of a Large English Dairy Farm, 734. «The Evesham Gustom », 735. Reorganisation of Agricultural Land Tenure in Russia, 736. Loss of Area due to Setting out Roads and Ditches in the Rearrangement of Properties, 737. A Model Improvement with Rounding-up of Holdings in the Tyrol, 738. The Share System

in the Italian Province of Aquila (A-

bruzzi), 739. A Joint Labour and Tariff

Contract between the Proprietor and

tion of Small Holdings in the Department of Ardèche in France, 742. Calculation of the Cost of Production in Peasant Farms, with Special Reference to Milk, 854. The Over-Valuation of Estates, 855. The Form of Wages of Permanent Farm-Hands in Trans-Danubian Hungary, 856. Three Years of Dairy Farming. The Variations in the Results and Their Causes, 857, A Comparison Between a General Farm and Dairy Farm, 858. Farming Eighthundred-Dollar Land at a Profit, 859. The Importance of Public Valuation Offices for Estates and Farms, 860. The Various Methods of Farming In Spain page 1127. Dairying without Breeding, 979. Butter Problem, 980. The Economical Causes of Decreased Milk Production in Austria-Hungary. 981. Intensive Feeding of Milch Cows. 982. The Adaptation of Sheep Farming to Modern Agricultural Methoda, 983. The Cost of Keeping a Heifer up to its first Calving, 984. The Cost of Production of Wheat, 985. The Most Favourable Time for the Yearly Closing of Farm Accounts, 986. Italian Emigration in 1912. 988. The Strikes of Agricultural Labourers in Italy in 1911, 989. Ways and Means of Indian Agricultural Development, 990. The Problem of Encouraging a Fresh Development of the Agricultural Production of Germany, 1078. The Agricultural Conditions of the Province of East Prussia, 1079. Difference in the Returns of two Dairy Farms and its Causes, 1080. Collective Renting of Farms, 1081. Efforts towards the Economic and Social Improvement of the Conditions of the Agricultural Labourers, 1082. Systems of Land Tenure Prevalent in the Plain Belt of the Pro-

vince of Treviso, Italy, 1191. Persons

engaged in Agriculture in Prussla ac-

his Labourers, 740. Cost of Harvesting

in 1911 and 1912, 741. The Cultiva-

1907, 1192. The Farmer's Income in the United States, 1193. Notes on Tobacco-Growing in Cermany, 1794. The Distribution of Capital in Fifty Peasant Farms in the Segeberg District in Schleswig-Holstein, 1287. The Cost of Big Farming, 1288. The Cost of Wheat-farming in Victoria, 1289. The Profitableness of Keeping Productive Stock, 1290. Profitableness of Pattening Cattle in Illinois, 1291. Acreage under Crops and Grass in England and Wales in the Year 1913, 1375. Technical and Economic invesstigations on the Rearrangement of Properties in Bavaria, 1376. The Distribution of the Land, and Agricultural Progress, 1377. Cost of Work in Farming, 1378, Farming on the Share System in the Bourbonnais, France, 1379. Measures for increasing the Economic Success of a Farm in the Department of Gard, France, 1380. The Estate «La Rugginosa» in the Tuscan Maremma: Example of Intense Improvement, 1381. Continuous Wheat, 1382. The Cultivation of Tea in Small Holdings, 1383. Proportion of Area Occupied by the Various Crops and Net Profit, 1384. Limits of Profitableness of Farm Expenses in the Peasant Farms of Moravia, 1385. Cost of Milk Production in Mexico, 1386. Rye: Recent Investigation of the Experiment Station for Cereal Testing, 25. How Thickly Should seed be sown on

ng to the Consus of Just 12,

Sacsnoop, a Discount of Bees, 308.
Sacharachaca, 356.
Salmonidae, 53.
Salt, commonclai, as a Fertilizer for Sugar Beets, 670.
Salt, common, on the manuful effect of,

Rye Grass: A New Variety of Rye

Mountain Farms?, 241.

Grass, 247.

Sah, New System for Overlying Land and Freeding in from 912. Sanseviers, the cultivision of Cowstring Hemp, 1258. Sawans, 120.

Sawdust, in soluble form as a Foodsun, 47; use of, for feeding stock, 790. Schistosomum turkestanicum Skriabin, new Parasite of Cattle in Turkestan, 1048. Schools of Agriculture: Rural continus.

tion Schools of Prussia, 2. Agricul-

nural Continuation Schools in Belgium.

99. The Agricultural and Forestry Schools and Colleges in Austria, 205.

Colonial Agricultural College at Tenis, 207. Agricultural Schools in Hungary, 453. Agricultural College at Grigono.

454. Tropical University, 456. The

Practical School of Agriculture at Toti

(Perugia, Italy); 635. Rural Continution, Schools, 771. National School of Waters and Forests at Nancy (France). 1126. Travelling Schools for Rural Domestic Economy (France), 1127. Pesition and Conditions of the Prussian Rural Continuation Schools during the Financial Year 1912, 1316. Practical Schools of Agriculture in Uruguty, 1317. Local Extension Schools and A

also, Education and Experimentation in Agriculture and Forestry.

Seed: On the application of Precipitine Reactions to Seed identification, 117. The Exportation and Importation of Clover and Lucerne Seed into Harbary, 124. The Seed Farm at Schlaustedt, Germany, 493. The Progres of Ceresi Seed Selection in France, 1966 1972. The tuture Position of the

gricultural Winter Schools, 1318. See

Swedish Station for the Improvement of Seeds, 1130. Swiss Law concerning the control of the commerce, 1313. Selection: New Methods for determining the Computative Value of Selections, 22 Cultural Bud Mutations of Johnston Immite Dunal, 23. Solumn

immits, a New Species of Potato from Peru. 24. On the Inheritance of some Characters in Vacat: 118. Results of Selection on Vacat Yields in Nebrasks, 239. Asperagus Breeding for Rust

Resistance, 240. The Selection of Hungarian Wheat, 353. Comparisons of

Yield between Hybrids and Selections in Oats, 354. A Variety of Malze with Silks maturing before the Tassels, 355.

Cotton selection in Montserrat, 360. Effect of Fertility upon Variation and Correlation in Wheat, 488. Xenia in

Wheat, 489, Heredity of a Maize Variation, 490. The Relation of Certain Eear Characteristics to Yield in Corn (Maize), 491. The Production of New and Improved Varieties of Timothy,

492. The Seed-Farm at Schlanstedt, Germany, 493. Improvement of Field Crops at Svalöf, page 834. Improvement of Wheat and Oats at Svalöf, page 844. Official Register of Selected

Plants in Hungary, 624. On Cleistogamy in Rice (Orvza sativa) and the Possibility of Gross Fertilization, 657. Particulate Inheritance, 658. The Bearing of Teratological Development In

Nicotiana on Theories of Heredity, 659. Breeding of Vines, 660. The Progress of Cereal Seed Selection in France, page 972. The State of Agricultural Plant Breeding in Austria,

page 978. Agricultural Plant-Breeding in Germany at the Present Day, page 983. Experiments in Wheat Breeding: Experimental Error in the Nursery and Variation in Nitrogen and Yield, 795. Studies of Natural and Artificial Parthenogenesis in the Genus Nico-

tians, 796. On the Behaviour of Wheat

subjected to the Action of Cooper Sul-

phate Solutions of Different Concentrations, 797. An Unfixable Dwarf Race of Wheat, 926. Preliminary Report on Effect of Close and Broad Breeding on Productiveness in Maize, 927. Selection of Maize on the Estate of Ruma in Hungary, 928. The Inheritance of Certain Forms of Chlorophyll Reduction in Corn (Maize) Leaves, 929 of the Liguie and Auricles of Corn

(Maize) Leaves, 930. The Inheritance Influence of "Pickling" on the Germination of Cereals, 931. The Inheritance of certain Quantitative Characters in Tobacco, 1033. New Selection Varieties from Alpine Forms of Fod-

der Grasses, 1142. Selection of Pigeon-

Separators: Trial of the Hand Power

Pea or Rahar (Cajanus indicus), 1143. The Selection System in Forest Economy, page 1688. Research on the Variability of the Sexes in Cannabis sativa L. and Rumex Acetosa L., 1252. Position and Space given to Individuals in the Selection of Plants, 1253.

Separator « Lacta 2 », of the Machine and Bridge-building Company, Helsingfors, Finland, 291. Hand Separator, 850. Test of a "Westphalia" Milk Separator capable of working 330 Gallons per Hour, 1374. Sericulture: Decree approving the Regulation of the Brazilian Government

Stations, 1. In Japan, page 334. Silkworm Rearing in Tropical Countries, 967. Results of the Season 1912-13 of the Service for the Control of Silkworm Egg Breeding in France, 1273. Sesamum: In Italian Somaliland, 203. Sewage: Effects on Soil, 14. The Relation Manurial Value of Nile Water and

ted Coffee plants grown under certain shade plants, 369. New Species for Cacao, Vanilla and Coffee Plants, 371. Sheep: Wireworms and thein treatment, 45. Some data on tre Inheritance of Horns in Sheep, 148. Contribution to

the History of Merino Breeding, 157.

Shade trees: Ratio of yields of cultiva-

Sewage, 479.

Sheep-Breeding Experiments in Alaska, 158. In the Kivu, 276. Breeding Experiments with Welsh Mountain Breeding Ewes, 281. Introduction of

Studies on Contagious Againctia, 383. In Morocco, 387. The Decline of Commoning Flocks of Sheep in South Germany, 393. The Apullan Merino Sheep, 394. The Merino Sheep of North Atrica, 395. Sheep Breeding in Hungary, page 680. Piroplasmosis in Sheep, 543. The Moscow Sheep Breeders' Congress and Exhibition, 558. The Wool Industry in the British Dominlons, 837. Wool Production in French West Africa and the Introduction of Merinos, 962. Fat Lambs at Ruakura, 963. The Adaptation of Sheep Farming to Modern Agricultural Methods, 983, An Illinois Sheep Feeding Test, 1060. The Improvement in Sheep-Breeding in Algeria, 1182. The Zigaya Sheep, 1361. Digestibility Experiments with Sheep. Para Rubber Seed Cake, 1362. Shoveand Fork, combined, 1071. Shows, Agricultural; 7, 8, 9, 10, 11, 12, 13, 100, 101, 102, 103, 104, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 341, 460, 640, 775, 907, 1023, 1131, 1237, 1319. Sickness in Soil, 14.

Karakul Sheep into Asseutina 282

Sisal Hemp: The Cultivation in German East Africa, 250, 1150. Importation into Germany from the German colonies, 335, 767. Henequen, 505. A New Machine for extracting Sisal Hemp Fibre, 569. The Cultivation of Sisal Hemp in Tunis and the Production of Fibre from its Leaves, 1257. The Cultivation of Cowstring Hemp (Sanseviera), 1258.

Skinet, 663.

Silica: The Soluble Silicle Acid in Basic

Slag, 476. The Possibility of Using

Crude Phosphates and Limes contsi-

ning Silica as Manures, page 1316.

Lime Rich in Silica, 787.

Silkworms, see Sericulture.

Slag, see Manures Phosphatic. Slaughtering of animals: The Slaughter best Production 544 Pregnant minmals stanguested in Clermany, 596. Smoking meat, apparatus for, 976. Snow, the Conservation of, its Dependence on Mountains and Forests, 482.

Soil: Investigations on a Sickness, in Soil; Soil Sterilisation, and Some Practical Applications, 14. Researches on Alkaline Meadows and Pastures, 15. The Composition of Soil Suitable for Rubber Cultivation, 16. Soils from the East Africa Protectorate, 17. Analysis of the Soil of the principal Vi-

neyards of Cote d'Or, 35. An Application of the New Pedological Knowledge to Grasslands, 108. Rate of Movement of Nitrates in the Soil, 109. New Researches on the Accumulation of Nitrogen in the Soil by Micro-organisms, 110. The Action of Quicklime on the Soil, 111. Agricultural Study on Manganese, 226. The Black Soils of the Oued R'Dom Valley in Morocco, 227. The Witting Cote ficient for Plants in Alkail Soila, 27.

of a Preceding Crop on Nitrification in Soil, 344. The Changes in Soil due to Manuring, 345. Application of the Ammonium Carbonate Method for the Determination of Humus to Hawaiian Soils, 464. The Intensity of Nitrification in Arid Soils, 465. Movement of Nitrates in the Soil, 466. Classification of the Soils in Claciated Regions so

Occurrence and Nature of Carbonized

Material in Soils, 343. The influence

ciple, 645. Studies on Lateritization, 777. On the Alkaline Reaction which may be caused by Acids and Sals in the Soil, 778. The Value of Soil Analyses to the Farmer, 780. The relation of Lime to Magnesia in Soils, 788. Soil Moisture Determinations for Catom, 1025. The Effects of Calcium as

carding to Size of Particles and Phy-

sical Properties, 644. Osmosis in Solis,

and Possible Applications of the Prin-

Magnesium Carbonates on some Bio-logical Transformations of Nitrogen in Soils, 1026. On the Circulation of Sulphur and of Chlorine on the Earth. and on the Importance of this Process in the Evolution of Soils and in the Vegetable World, 1133. The Condition of Soil Phosphoric Acid Insoluble in Hydrochloric Acid, 1134. Comparative Researches upon the Cohesion of Different Kinds of Soils, 1239. The Reawakening of the Soil, 1241. The Movements of Soil Water in an Egyptian Cotton Field, 1323. olanum Chimeras, 484. olanum Sp., 23, 24, 484, 655. lophora glauca, 1044. jorghum: Sorghum vulgare, 935. Sorghum crops for Silage, 1172. Sorghum Growing in the Victorian Mallee for Summer and Autumn Sheep Feed, 1335. Sorrei, 374, 807. Soya: Cambodia Soy Beans, 122. Acreage and Production in Japan, page 336. Soy Beans in india, 662. Synthetic Milk Production from Soya Beans in

soya: Cambodia Soy Beans, 122. Acreage and Production in Japan, page 336.
Soy Beans in India, 662. Synthetic Milk Production from Soya Beans in Liverpool, 1392.
Starch, Determination in Meat Food Products, 416.
Sponges as a Fertilizer, 1328.
Spraying: Machines in Malaysia, 168.
Stable, see Building construction.
Stegomyia fasciata, 96.
Sterilisation of Soil and some practical Applications on Sickness in Soil, 14.
Stillingia sebijera, 689.
Strawberry-culture: Experimental ground for strawberry-growing at Retfalu,

Sterilisation of Soil and some practical Applications on Sickness in Soil, 14. Stillingia sebifera, 689. Strawberry-culture: Experimental ground for strawberry-growing at Retfalu, in Hungary, 678. rongyili, page 502. rongyili, page 502. rongyins contortus, 45. idan Grass, 789. ilphate of Ammonia, see Manure Nitrogenous. 1gar Beets: Cultivation Experiments with Dried Seeds of Sugar-Beets in Hungary, 29. A Contribution to the

Question of Changes Occurring in Sugar Beets during Storage, 30. Use of Vindobona Pulp on a Large Scale for the Ensilage of Sugar Beet Pulps.

in Hungary, 147. Manuring, Present

State of the Question in Germany,

page 348. General Review of the Beet Sugar Industry in the United States, 253. Improvement in the Shape of Sugar Beets, 254. The Insect Visitors of Beet and Mangold Flowers, 255. Action of Light on the Growth of Seed Beets, 363. Handhoe for Beets, 402. The Composition of Beets in the Dry Year

1911 and the Effect of Late Rains upon
Them, 509. Manuring Experiments
with Sugar Beets in Hungary, 511.
Determining the Price of Sugar Beets
in France, 579. The Distance apart for
Sugar Beets. Experiments in Hungary,
669. The Use of Commercial Sait as
a Fertilizer for Sugar Beets in Hungary,
670. Patent implement for sin-

gling, 844. Quality of Sugar-Beet

Seed, 932. Sugar Beet in the Argenti-

ne. 940. Action of Flowers of Sulphur

on Sugar-Beets, 941. The competi-

tion of French Beet-lifting Machines.

364. Experiments made in the Expe-

riment Fields of the Djokja Sub-Sec-

tion of the Experiment Station of the

Java Sugar Industry in 1911, 510. Va-

970. Competition of Beetroot Lifting Machines in France, 1366.

Sugar Cane: The Cultivation in Louislana, 128. Sugar Cane Cultivation and Sngar Industry in Peru for 1911, 129.

Seedling Canes in India, 130. Cultural Accounts and Production of Sugar Cane cultivated on the Share System,

rieties of Sugar Cane tried at the Experiment Station of the "Escuela de Arboricultura y Sacarotecnia" At Tucumán, Argentina, 514. Sugar Cane Experiments in British Guiana, 939. Contribution to our Knowledge on the Influence of Sugar-Cane Cultivation on the Productivity of the Land when

net under Mairs and Rice, 1288 The TANK THE IN THE SERVICE Postilian of the Came Sugar fine during the Last Twenty Years, 1330. Sugar crops: Preliminary Report on ference to Java, 134. Tobacco Refuse Sugar Production from Maire, 512. as manure for Vines, 139. Acrease The Date Sugar Industry in Bengal. See Sugar Cane and Sugar Beet. Sugar industry: The International Commission for Uniform Methods of Sugar Analysis in the Meeting held at New York on September 10, 1912,

the Sugar Industry in the Philippine Islands, 513. Sulphur: New Experiments on the Pertilizing Property of Sulphur, 234. The Pertilizing Action of Sulphur, 478. Action of Flowers of Sulphur on Sugar Beets, 941. On the Circulation of Sulphur on the Earth, 1133. The Sulphur Industry and Trade in the United States, 1140. Surra, 381, 382, 819.

306. The Sugar Industry in North-

East Brazil, 417. A Short Review of

Sylviculture, see Forestry. TALLOW TREE, 689. Tanning Export of substances for, 332. Mangrove, 335, 379.

Sweet Potato, 663.

Tapeworm disease, 46, 309. Tea: Acreage and Production in Japan, page 336. Cultivation, Manufacture and 1154. In Russia, 1343. The Cultivation of Tea in Small Holdings, 1383. Tessel, Fuller's, 135.

Tell (Eragrostis abyssinica), 665.

Tegalaus, 120. Texas cattle fever, 43. Thatching, apparatus for assisting, 1369. Ticks, 42, 43, 397, 691, 815. Timber: Export of lumber from the Gold

Coast, 332. Importation of Cedar Wood into Germany from the German colonies, 335.

Timothy grass: The Production of New and Improved Varieties of Timothy, 492.

Tobacco : Insufficient for Experimental Tobacco Growing, 32. The Cultivation of Circu Tobacco with Special Re-

and Production in Japan, page 336. in Italian Somailland (Benadir), 203. Experiments on Manusing Tobacco in Hungary, 261. In Great Britain and freiand, 519. The Data obtaind in 1911 respecting the Use of the Products of Cross of Heavy-Leaved

Species of Tobacco Resistant to Thie. lavia basicola, 520. The Bearing of Teratological Development in Nicotiana on theories of Heredity, 659, The Results of Szeged Tobacco Selection in Hungary, 675. Studies of Natural and Artificial Parthenogenesis 796. The Nicotine Content of Hunga-

rian Tobaccos, 804. Economic Results

of Cultivating Heavy Tobacco Crosses

Resistant to Thielavia basicola, 805.

fluence of Rainfall on the Quality in

The occurrence of Barium, 924. Distribution of Nicotine in the Leaves of Kentucky Tobacco, 1030. The Inhentance of certain quantitative characters in Tobacco, 1033. Notes on Tobacco Growing in Germany, 1194. Exports of Tobacco from Hungary, 1261. The Enzymes, 1331. The la-

Sumatra, 1342. Tolé, 31. Toll, 31. Tomato: The Naples Tomato, 263. Invincible and Ruby, 374. Tomato-Seed

Oake, 3885. Tore, 31. Tractors see Machinery. Trade, Imports and Exports of Agricultural Products: Imports and Exports

of Manures in Netherlands, 20, An Export trade in Eggs from South Africa, 161. Agricultural Exports iron the Gold Coast, 332. Agricultural Exports in 1912 from New Zealand.

334 leader in Germany, in 1912. of Produce from the German Colonies, 335. Export of Danish Agriculjural Products in 1912, 336. Exportation of Agricultural Produce from the State of Rio Grande do Sui, Brazil. 337. California Fruit and Nut output. 420. Proposed Law on the Wine trade in the Republic of Uruguay, 443. Bartlett Pear Precooling and storage, 534. The Exportations of Fruit from Portugal between 1906 and 1910, 539. Type of Farming in relation to Distance from Market, 577. Determining the Price of Sugar Beets in France, 579. The Supplying of the French Meat Market, 595. The Application of Artificiali Cold to Food Products in North Africa, 603. Trade of Pepper in Siam, 677. The General State of the Nitrate Trade in 1912-1913, 785, 1245, Fruit Production and Trade in Hungary,

949. Trade in Banana Products, 947. An Act to Regulate the dize and Description of Cases used in Thedali and Export of Fruit in Queensland, 1015. Dressing and Marketing Poultry, 1272. Swiss Law concerning the Commerce of Products useful to Agriculture. 1313. Statistical Study of Wheat-trade (1881-1910, 1332. frapnerava, 694. free-stumps. Clearing away by Engines, l'rifolium pratense, on some vegetative anomalies of, 485. fristeza, 145. frough: Pig feeding by means of Automatic Troughs, 283. Automatic Drinking, Trough, 575. fruffle: Artificial Truffle Grounds, 375-

rutta iridea, 53.

Flower pots, 265.

luber Plants, see Root Crops.

lubes of Giant Reed, a substitute for

luberculosis, see, Hygiene of Live

uba, 604.

Stock.

rican stocks, page 3. A Table Summarizing the Properties of the Different Vine Stocks of adapting themselves to Different Sors, 34. The Vineyards of the Côte-d'Or (France), 35. Viticulture in the Department of Concordia (Entre Rios, Argentina), 36. Investigations and Researches Regarding the Effects Produced on the Vine by Graiting, 138. Manuring Vineyards with Tobacco Refuse in Hungary, 139. Manures for Vines, 266. Manuring with soluble manures in Dry Years, 346. A New Method of Pruning Young Vines, 376. Variation of Yield of Grafted Vines with Age, 524. Vineyard Reconstitution and New Stocks, 525. On the «Localization» of Direct Bearers, 526. Imbedding Whip-Grafts of Vines in a Hot Chamber, 527. Reconstitution of the Vineyards in the South of France, 528. Vine Growing in the Province of Mendoza, Argentina, 529. Breeding of Vines, 660. The Summer Transplanting of Grafted Vines, 681. The Koshû Vine, 682. A New Hybrid Direct Bearer, 683. Vines from Hybrid Vines at the Toulouse Exhibition, 684. A Comparison Between the Cuttings of Grafted and Ungrafted Vines, 808. Late Pruning,

Turkey in Great Britain, page 367

Turnip, Marteau for forcing, 807.

Study of Vanilla, 1043.

Vigna catjang var. textilis, 1037.

Vine Growing: Reconstitution of Por-

tuguese Vineyards by means of Ame-

Varnish tree, 689.

Veli Bouchi, 245.

Veivet bean, 1334.

Vin de goutte, 64.

Vin de Marc, 64.

Vindobona Pulp, 147.

Veezee, 663.

Tyroclyphus longior var Castellanii, 97.

VANILLA: New Species of Shade Trees

for Vanilla, 371. Contribution to the

800. Planting Northern Vineyards and Forcing-Houses with the Assistance of American Stocks, 810. Viticulture in Hungary, page 1142. Systems of Pruning Vines, and Distance Apart for Planting, 944. The Oberlin Vine Hybrids: their Value and Use,

Apart for Planeage, 543. The Government of Planeage, 545. The Sexual Organs of Vine Hybrids, 1158. The Reconstitution of Swiss Vineyards, 1159.

Viticulture see Vine Growing.

Walnut TREES: New Experiments on the Cultivation, 271. The Persian Walnut Industry of the United States, 538.

Warping in England, 914. Warping in England, 914. Water-Cress: Varieties of, 679.

Water Me'on, Green from Tripoli, 807. Watering Place on Moor Pasture, 1286. Watzl's Regulator for Ploughs, 288.

Wax tree, 689.

Wheat: Nitrogen content and distribution in native Wheats, 25. On the Inheritance of some characters in Wheat,

118. Acreage and Production in Japan, page 336. Results of Selection on Yield in Nebraska, 239. How Thickly Should Seed be sown on Mountain Farms, 241. The Selection of Hungarian

Wheat, 353. Investigations in India, 357. Drill for method Zehetmayr, 403. Effect of Fertility upon Variation and Correlation in Wheat, 488. Xenia in Wheat, 489. The Improvement of In-

dian Wheat, 494. The Work of Plant Breeding at Svalöf, page 844. The Influence of the Environment on the Milling and Baking Qualities of Wheat. In India: No. 2,661. The Influence of Making Tine and Edga Salts on Wheat.

Lithium, Zinc and Lead Salts on Wheat, 789. Experiments in Wheat Breeding, 795. On the Behaviour of Wheat subjected to the Action of Copper Sul-

phate solution of Different Concentrations, 797. Wild Wheat in Palestine, 788. Wheats from the British

An Unitable Dwar-Race of Wheat 928 Portable Wheat Essicator, 973 The Cost of Production of Wheat

The Cost of Production of Wheat, 985. Experiment on Thick and Thin Seedings of Wheat carried out at the State Farm, Chapman, Western Australia, 1254. The Cost of Wheat for

ming in Victoria, 1289. Statistical Study of Wheat Cultivation and Trate 1881-1810, 1332. Comparative Experiments on Wheat Selection in Hungary, 1333. Continuous Wheat, 1382.

Whey Lemonade, 301. Wind-break tested in Libya, 688. Wine-making: "«Vin de Goutte» and

« Vin de Marc », 64. The Making and Composition of Tunisian Wines, 181. Bacteria in Grape and Fruit Wines and the Alterations due to them, 307. The

Acidification of Musts by the Action of Yeast during Alcoholic Fermentation, 308. Analitical Characters of the 1912 Musts in the Canton of Vaud, Swilzerland, 309. Withe Liqueur Wines, 418. The Ageing of Bottled Wines,

419. Proposed Law on the Production

of Wine and on the Wine Trade in the Repubblic of Uruguay, 443. Studies of Wines, 597. The Effects of Transport upon Wines, 598. Crystalline Deposits in Wines, 599. The Removal of Acidity from Musts and Wines, 600. Abmormal Musts and their Treatment,

dity from Musts and Wines, 600. Abmormal Musts and their Treatment, 601. On the Composition of the Maconnais-Beaujolais Wines from the 1912 Vintage, 602. Wines from Hybrid Vines at the Toulouse Exhibition, 694. Cold and Ferments in 1912, 749. The Manager of Cold, 750. Second Practical

course of Wine Analysis by the Parsico-Chemical Volumetric Method, 774. The Ferment Producing Biter ness in Wines, 871. Good Wine and Bad Cellars, 1091. The Influence of Some Elliptical Yeasts on the Constittion of Wine and other Fermented Liquids, 1802 Notes on the Vine-Groving Districts of Chile, 1201. The Wines of Tokey and a Comparison with those of Sauternes, 1202. Influence of Ferments on the Variationa in Dry-Extract and Glycerine in Wine, 1203. Grecian Wines, 1294. //ireworms in Sheep and their Treatment, 45. //od oil tree, 689.

ool from Cyprus, 305. ool Industry in the British Dominions, 837. Annual Wool Review for Austra-

INTHROSOMA SAGITTIPOLIA, 1263.

lasia, 1199.

Xenia in Wheat, 489. Yagua, 141.

Yam growing in Jamaica and Queens land, 246.

Yeast: Yeast, Dry, as Fodder, 47. The Development of the Dried Yeast Industry in Germany, page 692. Feeding Experiments for Horses, 1357.

Yellow Fever, see Fever. Yoghurt, Preparation and Use, 1086.

ZAHA, 256.

Zapupe Vincent, 938.
Zebus: The Exportation from Madaga-

scar, 50. Utilization of Food by Zebus, 545.

Zinc, influence on Wheat, 789.

## B) INDEX OF AUTHORS.

ADAMS, D: W., 143. Adams, P., 1137. Advisse-Desruisseaux, P., 1043. Aguet, James, 385. Agulhon, H., see Bertrand, G. Aielli Donnarumma, 520, 805. Alcock, F., see Coombs, F. A. Alexander, D. C. Jr., 168. Allemann, O., 1391. Allen, W. J., 137. Ambroz, A., and Chervat, P., 468 Anderson, L., 1055 Anderson, W. A., 1153. Anderson, W. S., 1355. Angelin, R., see Petit, G. Annett, H. E., 671. Anzorena, Pedro, 36. Arenander, E. O., page 1502. Arkell, T. R., 148. Arthur, Richard, 258. Ashton, J., 711. Asmis, 1129. Asse, H., 393. Aston, C., 506. Astruc, A., see Jadin, F. Astruc, H., 601, 749. Auerbach, N., 573. Augstin, 470, 650. Augustin and Meyer, 830. Auld, S. J. M., 1352, 1362. Auriol, A., 683. Aviragnet, Doriencourt and Bloch, Mi-Ayers, S. Henry and Johnson, William ,T., 864.

Bakmayr-Heyda, L., 986. Baco, P., 808. Baillaud, E., 260, 446. Baker, E. G., 1350. Bald, C., 1154. Balkányi, Béla, 441. Balls, W. L., 643, 1323. Bang, Oluf, 821. Barber, C. A., 130. Bariola, Rosa, 262. Barkhout, A. H., 365. Barthel, Chr., page 1478. Barthel, Chr. and Bergman, M. Arvid, Bartolommei-Gioli, G., page 1135. Bates, F. W., see Lynde, C. J. Batocki von, 1082. Bauwerker, 951. Beadle, Clayton and Stevens, Henry P., 131. Beal, W. H. and Hamilton, John, 6. Beattle, W. R., 65. Beau, C. E. W., 837. Beauverie, J., 879. Beck, Ernst, 855. Beker, J. C., 1166. Benson, M. and Evans, R. H., 1088. Bergam, M. Arvid, see Barthel Chr. Berg, W. N., see Rogers, L. A., Pottelger, C. R. and Davis, B. 1. Berkhout, A. D., see De Ruijter, de Wildt J. C. Berlese, Antonio, page 697. Bernardini, L. and Mazzone, G., 777. Bernard, Paul, 1382. Bernhardt, 1267. Berry, R. A., 116. Bersch, Wilhelm, page 1672. Bertainchaud, E., 919.

Berteau, A., 1042.

Berthaulf, B., Bretignere, L. and Berthault, P., 921. Berthault, P., see Berthault, B. Brétignère, L. Berthold, Hans, 965. Bertoni, Moisés S., 676, 694. Bertrand, A., 652. Bertrand, G. and Agulhon, H., 1052. Bertrand and Medigreceanu, 824. Beseler, 1078. Betegh, L. v. 51. Betts, Annie D., 164. Bickele, 590. Bilger, O., 22. Biró, Gusztáv, 585. Bischoff, Kurt, 1318. Bizzell, J. A., see Littleton, L. T. Blanck, E., 477. Blaringhem, L., 48, 658, pag. 974. Block, Michel, see Aviragnet, and Dorlencourt, Boas, J. E. V., 144. Boekhoute, and De Vries, Ott, 1293. Bols, D. and Grignan, G. T., 268. Bolin, P., 1027. Bonanèea, Sylvio, 1386. Bondy, August, 582. Bonebright, H. B., 845. Bordet, Y., 51. Bordiga, Oreste, 916, page 827. Borges, j. F., page 989. Bornemann, 983. Börnstein, R., page 1667. Borri, R., 301. Borzi, 937. Borzi, A., 687. Boech, R., 839. Bourgeois, Heary, 505. Boynton, William Hutchins, 146. Bracci, F., 537, page 1496. Bradbury and Hirsch, 652. Brandstetter, J. v. 271. Brechemin, L., 718. Bret, C. M., 366, 672. Brétignère, L., 454. Bretignère, L., see Berthault, E. and Berthault, P.

Brendi, Pierre, 257.

Browne, A. G., 785, 1245. Brown, Edward, page 673. Brown, B. E., see Schreiner, O. Brown, W., 719. Bruck, Werner Friedrich, 1150. Bruhn, A. R., see Sammis J. L. Bruttini, A., 469. Buchem, 554. Budau, Georg, 274. Buglia, 544. Burnat, J., 34. Burnett, E. A., see Snyder, W. P. Burri. 411. Burtt-Davy, J., 665. Bush-Brown, H. K., 277. Bussmann, E., 1028. Butz, A., 1324. Butz, O., 408. CALVINO, MARIO, 938. Campbell, C., 1046. Campbell, Chas. A. Q., 903. Campbell, P. P., 445, Canu, G., 1201. Cardas, Agricola, 625. Cardonne, see Mantout, Suisse, Causse and Vermeil. Carles, 750. Carlier, 276. Carpenter, Geo. H., Corson, F. H., Prendergast, W. F. and Steen, J. W., 144. Carter, Platts W., 980. Castellani, Aldo, 97. Causse, see Mantout, Suisse, Vermeil and Cardonne. Cavel, L., 604, Cayle, V., 1260.

Cayla, V., see Girard, E.

Chancey, Walter E., 152.

Cettolini, Sante, 994. Chalot, C., see Deslandes R.

Briganti, G., 531.

Briggs, L. J., 846.

Brinkmann, Th., 58, 577.

Briscoe, Ch. F., 953.

Broggi, Alfredo, 547.

Chenevard, W., 409. W. N. and Potteiger, C. R. Chevalier, Auguste, 371, 673, 1340. De Angelis d'Ossat, 481. Chiappini, 161. Decazos, P. A., page 504. Chouchak, D., 923. De Condé, 565, 730, 972, 974, 1067, Chouchak, D., see Pouget I. 1071. Choukevitch, J., 695. De Contenson, 647. Church, J. E., 462. Decoppet, page 1822. Cicerone, D. and Marocchi G., 1030. Degen (De) A., 359. Clark, C. F., 512. De Gironcourt, G., 962. Clark, R. W., 838. De Jong, A. W. K., 1039. Clark, W. B., 253. De la Barre, 715, 1270, Clark, William Mansfield, 62. De Lapasse, 814, Cocciante, Nicola, see Marca Rocco. De La Rosa Gumersindo, Fernandez, Coffey, W. C., 1060. 1128. Collins, G., 490. Delassus, M., 1251. Coilins, G. N., 355. Delmotte, R., 943. Colver, C. W., see Jones, J. S. Delpon, J., see Daniel, L. Conner, C. M., 469, 513. Demolon, M. A., 478. Conner, Chas. M. and Mackle, D. B., De Monicault de Villardeau Pierre, 1377. Contzen, J., see Popp, M., Hofer, H. and Mentz H. Cook, O. F., 504, 700, 798, 1147. Dern, 660. Cook, O. P. F., 1256. Coombs, F. A., and Alcock F., 379. Corson, F. H., see Carpenter, Geo, H. Coulson, T. H., 19. Coupan, G., 169, 728. Couston, F., 1182. Coutté, M., 395. Cox, Alvin J., 113. Crampton, G. B., see Smith, W. G. Crisci, Pompilio, 739. Crowther, C. and Steuart, D. W., 1321. Cugnini, A., 1072. Cuif, E., 1162. Curdes, R. S., 710.

Chandler, S. E. and Mc Ewan, John,

1041.

Chappaz, G., 527.

Czadek, von Otto, 1357.

DACY, GEORGE H., 859.

Daniel, L. and Delpon J., 1045.

Dallimore, W., 135.

Damseaux, A., 493.

Chassiotis, 1294.

Charvat, J.; see Ambroz A.

Deneumostier, Charles, 24. Denigès, G., 299. Densch, A., 1243. De Ruijter de Wildt, J. C. and Berkhoult, A. D., 786. Deschunkorosky, E. and Luhs, T., 818. Deslandes, R. and Chalot, C., 1263. Detlefsen, J., 699. De Vries, H. J., 144. De Vries, Ott., 1293. Dewey, Lyster H., 249. Dobbs, A. C., 990. Doherty, J. K., 347. Dolbear, C. E., 348. Doncaster, M. A., 1054. Dorlencourt, see Aviragnet and Bloch, Michel. Douglass, A. E., 224. Dubard, M. and Eberhardt, Ph., 1349. Dubois, P., 807. Dubourg, E., see Gayon, U. Ducloux, A., 1127. Dunstan Wyndham, R., page 1803.

Dapples, Charles, 1381.

Dautremer, Joseph, 630.

Davies, C. J., 275.

Davidson, J., see Robison, L.

Davis, B. I., see Rogers, L. A., Berg,

Dusserra, C., 230. Dvorak, J., 110.

EBER, 1265.
EBerhardt, Ph., see Dubard, M.
Hcker, E. E., and Van Deventer, M.,
Houtman, P. Schmit J.

Bekles, C. H. and Shaw, Roscoe H., 391, 556. Edler, page 983. Eichholtz, Th., 297:

Ellis, R., 519. Ellrodt, G., 1204. Emerson, R. A., 929, 930.

Emslie, L. E., 347. Endres, 949.

Engels, O., 957. Eriksson, J., page 1005. Eribeck, Alfred R., 981.

Etesse, 31. Evans, Alice C., see Hastings, E. G.

Evans, Alice, see Hastings, E. G., Hart, E. B.

Brans, R. H., see Benson, M.

Fars, H., 1159.
Fairchild, D. and Simmons, E., 813.
Fairthild Iosé 497

Faldini, José, 497.
Farmer, C. E., 532.
Farmeti, Rodolfo, 657.

Pascetti, G., 1083.
Fauchere, E., 267, 967, 1347.
Fehlmann, W. F., 1363.

Pernando, H. M., 651. Pernbach, A., 308.

Ferris, W. H., 521. Reseler, Kurt, 1163. Filip, 32, 823.

Fink, E., 769. Fracher, Alb., 593. Frieder, C., 565, 1066, 1277, page 852.

Pitcher, G., 868, 1066, 1277, page 85; Pitcher, J. B., see Reed, O. E., 1172.

Platechmann, Rezső, 828. Platechmann and Wiegner, 1196. Platecer, A., 15.

Pfizierer, A., 15. Politváry, 124. Poussat, J., 680. Freund, Emil, 49. Freund, W., 1389, Friedl, Gustav, 30.

Froggatt, Wafter W., 63.
Frolich, Gustav, 1268.
Frosterus, Benl., 644.
Frouid, Afbert and Mercier, Victor.

866. Fruwirth, K., page 978.

Fryer, J. C. Fr., 1354. Fry, W. H. 1134. Gad, Johannes, 629.

Gagey, R. see Guillochon, L. Gainey, P. L., 467. Galli, Valerio B. 144.

Galzev, P. E. and Jakouchkin I. V., Gampert, E., 567. Gantcheff, G., 626.

Ganzert, 549. Garcia, Tomas R., 282. Gard, M., 1158.

Garnier, Max, 374. Gatin, C. L., 1151. Gaudechon, H. see Muntz, A.

Gauteenon, ri. see Mante, A. Gayets and Vancy, 144.
Gayon, U. and Dubourg, E., 419.
Geoffroy Saint-Hilaire, 387.

Georgis, P., 525. Glagnoni, C. N., 1378. Gleseier, Eb., 290, 975.

Gin, G., 227. Giovanoli, G., 1050. Girard, E. and Cayla, V., 1040.

Girard, Henri, 741. Gläser, Hans, 144. Godbille, P., 575.

Goldbeck, 550.
Goldbeck, 550.
Goldbeck, J., see Russell, E. F.
Goldbechmidt, R., 959.
Goodale, H. D., 958.

Goodale, H. D., 500.
Gorini, Costantino, page 514, 589, 1085.
Goriani, M., 777.
Gould, H. P., see Taylor, U. A.

Government-General of Talwan, 1161. Grabner, Emile, 353. Grale, E. and Wintz, H., 1169.

Fouseat, J., 680. Prateur, J. L., 905.

Hastings, S. H. and Letter, C. R. Graybill, H. W., 815. 472. Green, Ch., 841. Hayden, H. H., 1248. Grignan, G. T. see Bois D. Hayduck, F., page 692. Grimaldi, Ercole, 44. Hayes, H. K., 1033. Grimmier, W., 1208. Heckel, 23. Groff, L., 173. Hector, G. P., 933. Groh, Julius, 1170. Hedrick, U. P., 38. Gross, Alois, 1233. Hegedüs, Aladár, 678. Gross, Emanuel, page 1819. Heisig, 1286. Grunt, Ottokar, '303. Henderson, G. S., 473. Hendrick, J., 232. Guillochon, L. and Gagey, R., 1257. Guinier, Ph., 1126. Henry, see Railliet, Moussu. Güngerich, 987. Hepp, K., see Mezger, O. and Jesser, Gutknecht, 1290. Gyárfás, lózsef, 917. Herbert, T. J., 1184. Hermann, W., 53. Herold, R., 287. HAASTERT, VAN J. A., see VAN DER Herrambof, H., 1197. STOK, J. E. Hesse, A., 1390. Hadley, P. B., 1053. Hewltt, C. Cordon, 144. Hagmann, 1192. Heyking, H., 286. Hall, H. D., 780. Hillmann, 1250. Hall, Maurice C., see Ransom, Bray-Hinrichs, 1287. ton, Howard. Hiroshi, Hara, 1346. Halpin, J. G., see Hastings, E. G. Hirsch, see Bradbury. Hamet, H. and Josse, L., 132. Hirst, Stanley, 97. Hamilton, John, see Beal, W. H. Hitier, H., 595, 639, 736, 742, 901, 942. Hamlin, M. L., 1141. Hittcher, page 1826. Hansen, page 8, 170, 964, 1079. Hittcher, see Hösch. Hansen, P., 123. Höckner, 982. Hansson, Nils, 1181. Hofer, H., see Popp, M., Contzen, J. Harding, H. A., see Smith, G. A. and Mentz, H. Hardwick, L. L., 163. Hoffmann, 552. Harms, H., see Stolz, A. Hoffmann, I. F., 847, 1370. Harrison, J. B., 939. Hoffmann, C., see Torringham, W. E. Harrison, J. B. and Steckdale F. A., Hoffmelster, 591. Holldack, 848. Hart, E. B., see Hastings, E. G., E-Holm, Alex., 154. vans, Alice C. Holmes, George K., 172. Harttung, M., 229. Holmes, J. D. E., 382, 819. Harrwell, B. L. and Pember, F. R., 19. Höltzermann, 973. Haselhoff, E., 483. Hommell, R., 966. Hastings, E. G. and Evans, Alice C., Honcamp, F., 47. 993. Honcamp, F., Relch, M. and Zimmer-Hastings, E. G., Evans, Alice C., Hart, mann, M., 384. Horne, H., 144.

Hösch, and Hitteher, 1356.

Hastings, E. G. and Halpin, J. G., 822.

Graves, H. S., 143.

Houmeau, A., see Touchard, B. Houman, P., see Van Deventer, W., Schmit, J. and Ecker, E. E. Howard, A., 357, 794, 1037. Howard, A. and Howard, G. L. C., 118, 494, 508. Howard, A., Leake, H. M., and Howard, G. L. C., 661 Howard, G. L. C., see Howard, A. Leake, H. M. Howlett, F. M., 96. Höyberg, H. M., 61, 1195. Hudlg, J., 345. Hume, M., 1032. Hummel, A., 22. Humphries, A. E., page 1464. Hunter, H., 119. Hutchinson, C. M., 1242. Hutchinson, H. B., 111. Hutchinson, H. B., see Russell, E. J. Hüttig, E., 978. IRK, CHARLES, 1345. Ischivarra, T., 1049. Jachimovicz, Franz, 1234. Jacques, A., 1341. Jadin, F. and Astruc, A., 114. Jakouchkin, J. V., 918. Jakouchkin, I. V., see Galzev, P. E. Jakushkine, O. W. and Warvilow, U., 356. Jancsò, Béla, 29, 669, 670. Jesser, H., see Mezger, I. and Hepp, K. Johnson, J. C., 931. Johnson, William T., see Ayers, S. Henry. Jones, C. H., 19. Jones, J. S. and Colver, C. W., 1348. Joret, G., see Rousseaux, E. Josa, G., 394. Josse, L., see Hamet, Hr. Julien, A., see Weinberg, M. Jumelle, H., 292, 1343. W 35 KAJANUS, BIRGER, 485, 486.

Kaserer, H., 233.

Kearney, T. H., 237, 508,

Kirchner, 592. Kiss, Ferencz, 690. Klein, 41. Kling, M., 1173. Klose, 869, 1180. Koerfer, Stephan, 175. Kohn, F. G., see Measner, H. Kolatschek, A. W., 771. Kole, C. J., 386. Komáromi, Sándor, 149. König, J., 1330. Konrád, 820. Konrád, Emil, 176. Köppi, R., 727. Koppély, Géza, 147. Korte, K. A., 293. Kossowitsch, P., 1133. Kossowitsch, P. S. and Kotolow, G. J., 231. Köstler, G., 298. Kotchékov, V., 918. Kotolow, G. J., see Kossowitsch, P. S. Kovácsy, Béla, 559, 920, page 680. Kraemer, H., 413, page 1450. Krause, M., 516. Krause, R., 144. Krüger, E., 648. Kubat, 557. Kubelka, August, pag. 1688 Kühne, G., 1065. LABERGERIE, 266, 655. Laborde, J., 418, 1202. Lacassague, Ant., see Regaud, Cl. Lafar, 14. Laforest, A., 107. Lahitte, Emilio P., see Rodriguez. Francisco J.

Keghel (De), 396.

Keiser, 553, 561.

et Rogers, L. A.

Keyserlingk, Graf von, 54.

Kelley, W. P., 1026.

Kidder, R. L., 1291.

Kessler, 737.

Kelthley, J. R., see Thompson, S. C.

Kerpely, Coloman, 261, page 1696.

Kiesselbach, I., see Montgomery, E. G.

Lampa, Sven, 144. Lucas, 870. ang, H., 1194. Lucas, A., 479. anzoni, Oliviero, 862. Lucas, J. E., 156. argeau, 447. Luhs, T., see Deschunkorosky, B. arsen, H. C., page 1479. Luiggi, L., 781. aurent, Félix, 985. laur, Ernest, page 13, 55. aurie, D. F., 397, 636. AWS, H. E., 1264. eake, H. M., see Howard, A. and Ho-MACADIE, A. G., 225. ward, G. L. C. Machens, 560. eather, J. W., 909. ebert, A., 1336. ecierc du Sablon, 482. Mai, C., 584, .ecq, H., 603. Main, F., 40, 121, 834, .ederer, 551. efort, G., see Malpeaux, L. .ehmann, 1271. eidenfrost, Ch. de Bars, 1333.

.eisi, Glsler H., 405. .ejeaux, J. 681. emmermann, page 1483. éonardon, F., 346. epel-Freistatt, Freiherr v.; 283. esage, F., 679

eidigh, A. H., see Ross, J. F.

Lake, E. R., 538.

.esourd, F., 679. etteer, C. R., see Hastings, S. H. ex, 1059. ichtenheld, G., 1176. immer, 696.

indet, L., 414, 1292. indner, E., 1364. insbauer, L., 877. ittleton, L. T. and Bizzell, J. A., 344. ivlgston, B. E., 793.

obeck, O., 743, 1190.

ochow, Von, 1078. odge, C. A. and Smith, R. C., 14. oeffler, F., 692. öhnis, F., 14, page 667.

Inay, Alex., 770.

onyay, De F., page 1142.

opez, Emilio Sanchez, page 1127. orgus, page 306. ove, H. H., 354, 491, ... oveland, G. A. and Perin S. W., 910. Low, E. C., 153...

Lynde, C. J., 645. Lynde, C. J. and Bates, F. W., 645, Lyne, R. N., 628.

Mackie, D. B., see Conner, Chas. M. Macoun, W. T., page 1812.

Mais, T. F., 126. Malpeaux, L. 350. Malpeaux, L. and Lefort, G., 109. Manaresi, Angelo, 377.

Mandekic, 570. Manicardi, C., 716. Manlout, Suisse, Causse, Vermeil and Cardonne, 831. Marca, Rocco and Cocciante, Nicola. 383.

Marès, E., 528. Maresch, Heinrich, 1233. Maresch, O. R., 766. Marmu, M., 725. Marneffe, De G., 947.

Marchal, E., 484.

Marcille, R., 181.

Marocchi, G., see Cicerone, D. Martin, M. A., 144. Martiny, 843, 1187, 1364. Martiny, B., 976. Marzac, P., 685.

Mascheroni, E., 1178. Maschhaupt, J. G., 345. Mason, G. Heather, see Percival, J. Masoni, G., 778.

Mathleu, L., 598, 599, 600, 1091.

Mattel Di. 1047. Mattel, G. E., 663. Maublanc, A., page 858.

Mazzone, G., see Bernardinl, L. Maylor, W. J., 693

Mc Ewan, John see Charler S. E. Mc Cet, W. G., 471: Mc Hargue, J. S., 924. Mc Kee, R. and Ricker, P. L., 500. Mc Lachlan, Argyle, 28. Medigreceanu, see Bertrand. Mellis, C., 1174. Mendel, L. B., see Osborne, T. B. Mentz, H., see Popp, M., Contzen, J. and Hofer H. Mercler, Victor, see Fronin, Albert. Morrill, L. A., see Widtsoo, J. A. and Stewart R. Messerli, Hermann, 1351. Mesoner, H. and Kohn F. G., 60. Meyer, see Augustin. Mezger, O., Jesser, H. and Kepp, K., 954. Micheels, H., 115. Michelet, Juan A., 177. Michotte, F., 1258. Milner, R. D., see Worthy C. F. Minett, E. P., see Wise K. S. Minssen, G., 337. Mitlacher, Wilhelm, 1155. Mitchel, R. V., 1272. Mitscherlich, Eilh. Alfred, 1253. Mitscherlich, E. and Simmermacher, W., 475. Monin, 1075. Montague, H. T. and Wood! and, H. G. W., 689. Montgomery, E. G., 239, 795, 927. Montgomery, E. G. and Klesselbach I., 236. Vicoro, William, 43. Vioraes, Pascal de, 252. Morez, Henrique, page 1313. Vlosséri, V., 912. Moussu, see Rafflet and Henry. 'lulder, G. J., 345. Miller, von Berneck, 1285. Willer-Thurgau and Osterwalder, A., 307. Aulsow, Kari, 1275. Mintz, M. A., 351

Auntz, A. and Gaudechon, H., 1241.

Me Cranel, Primrose, 607, 1881

Murray, A., 773.
Murray, A., 773.
Murschhauser, Hans, see Schioseman,
Arthur.
Myers, C. H., 498.

Nanneson, L., page 173. Naoumoff, N., 878. Neresheimer, 1276. Neumann, 701. Nielsen, N., 1063. Nilsson-Ehle, H., page 844.

Nilsson, N. H., page 834.

NACHTWEH, A., 1068, 1069.

Morea, M. Sales

Nockmann, Else, 302. Nogueira, J. V. Paula, 586. Norton, J. B., 240. Nortin, P., 226.

Nougul, A., 358. Nunnick, F. C., 347. Nuttal, G. H. F., 1165. Nyrády, János, 453.

OINOUR J., 536, 682.

Ottingen, W., 389.

Oliva, A., 745.
Oliver, George W., 502.
Onor, Romolo, 203.
Oosthuizen, J. the P. and Shedd, O. M., 1331.
Orr, C. W., 1327.

Osborne, T. B. and Mendel, L. B., 1171.
Ostermayer, Adolf, Sc. 1384, 1385.
Osterwalder A., see Müller-Thurgan.
Otamendi, José, 1317.
Ords, D. H., 857, 858.
Ott, A., 1283.

PARST, 772.
Pacottet, P., 35.
Pacottet, P., see Visia, P.
Pacotter, Johannes, see Völz, VI
belm.
Palazzo, L., page 342.

Palazzo, L., page 342.
Pallatsesa, Ph. G., page 1335.
Pappel, A., 991.
Prisch, Tatchirk S., 300.

Pearl, R., 1353. Peck, J. and Snow, E. C., 1322. Pée-Laby, E., 684. Pember, F. R., see Hartwell, B. L. Penso, E., 1029. Percival, J. and Mason, G. Heather. Percival, J. and Mason, G. Heather, 747. Perez, Georges V., 265. Perin, S. W., see Loveland, G. A. Peritourin, Th. T., 918. Punnett, R. C., page 497. erroncito, E., 144. 'errot, E., 521, 806. RABATR, E., 535 'escheck, Ernst. 856. Rahn, O., 1240. eter, 144. eters, J., 712, 835. eters, J. G., 143. etherbridge, F. R., see Russeil, E. J. tit, G. and Angelin, R., 656. trini, L., 935. eiffer, Th., page 1316. alen, W. C., 1140. Maurice C., 46. ccioli, Lodovico, page 1682. Rasquin, Max, 144. ckering, S. U., 378, 811. ckering, S. U. and Russell, E. J.,

Paris, G., 587

Parlour, William, 279.

Parow, B., page 1342.

Passy, Pierre, 522, 686.

Paz, Carlos Romero, 129.

Paturel, G., 602, 911.

Parr. A. E., 1188.

Pauli, W., 854.

1325

lon, J., 33.

iehn, 458.

telie, M., 37.

per, C. V., 498, 799.

hn, Marianne, 722.

mmer, Fred. G., 143.

ichet, E., 579.

sson, H., 264.

Va. Jozsef, 511.

entz, H., 476.

ler, 21.

occhi, Antonio, 709. page 1157.

p. M., Contsen, J., Hofer, H. and

thet, P. and Tonduz P., 309.

Pradel, 375. Prendergast, W. F. and Carpenter, Geo. H., 144. Price, T. M., 416. Priego, Juan M., page 151. Prinsen, Geerlings B. C., 1338. Promsy, G., 352. Prosper, Gervais, 810. Prudhomme, Em., 370. Pucci, C., 545. Puchner, H., 1230.

Portchinsky, J., 144.

Pozzi-Escot, Emm., 1282.

Potteiger, C. R., see Bogers, L. A.,

Pouget, I. and Schuschek, D., 285,

Berg, W. N. and Davis, B. I.

Poskin, P., 642.

791.

Railliet, A., 144. Railliet, Moussu and Henry, 380. Rakoczy, A., 697. Rambaud, 1081. Ramm, E., 1135. Ramsey, H. J. see Stubenrauch, A. V. Ransom, Brayton Howard and Hall.

Rather, J. B., 464. Rátz von Stefan, 543. Ravaz, L., 524, 809. Raymaud, M., 1058. Rázsó, Imre, 139. Rebmann, 271. Regaud, Cl. and Lacassagne, Ant., 723. Reed, O. E. and Fitch, J. V., 1172.

Resident, 1186. Reutter, L., 925. Rey, H., 256. Rezek, J., 166, 401, 849, 850. Rezek, J. and Richter, L., 288.

mermann, H.

Renzi, André, 50.

Reinjust, A. E., 1383.

Reich, M., see Honcamp, P. and Zim-

Russell, E. J. and Hutchinson, H. R. Rezek and Winkler, W. K., 291 Richardsen, 713. Richardson, A. E. V., 1289. Richelet, Juan E., 304, 415. Richters, E., 816. Richter, see L. Rezek, J. Ricker, P. L., see Mc. Kee R. Rigotard, L., 1152. Ringelmann, M., 564, 566, 729, 782, 1278. Rivaltz, Dupont, 1160. Robert, C., 654. Robertson, T. G. M., 961. Robinsons, R., 1051. Robinsons, L. E. and Davidson, J., 823. Robson, W., 360, 1025. Rodiczky, von, 1361. Rodriguez, Francisco J. Lahitte, Emilio j., 529. Rogers, L. A., Berg, W. N., Pottelger, C. R. and Davis, B. J. 1087. Rogers, L. A., Thompson, S. C. Keithley, J. R., 744. Rolland, M., 1156. Rollin, 180, 748. Róna, Sigismond, page 1806. Roos, L., 64. Rosé, E., 922. Ross, J. F. and Leidigh, A. H., 1034. Ross, W. H., 1249. Rossi, Giacomo, 451. Rothkegel, Walter, 860. Roulston, O. W. H., 179. Rousseaux, E. and Joret, G., 1247. Rousseaux, Eug. and Sirot, Maurice, 605. Rousselle, V., 466. Roy - Chevrier, J., 526, 945. Rovell, J. R., 360. Rubarth, 568. Rubbia, K., 272. Ruijter De de Wildt, J. C. and Berkhout, A. D., 786. Rupp, Ph., 863. Rusche, 992. Russell, E. J., page 336. Russell, E. J. and Golding, J., 14.

Russell, E. J. and Petherbridge, F. R. 14. Russell, E. J. see Pickering, S. II Rüters, P., 861. Ryneveld, (van), A., 361. SABASCHNIKOFF, V. V., 234. Sabatini, P., 904. Saborsky, Paul, 1177. Sacchi, G., 1191. Saetteli, J. E., 159. Sagawe, B., 407. Sagnier, H., 1366. Saleeby, M. M., 1036. Samarani, Carlo, 588. Sammis, J. L. and Bruhn, A. R., 867. Sands, W. N., 360. Sane, C. V., 803. Sani, Glovanni, 1093. Santos, E., 448. Sapper, Karl, 631. Sawamura, Makoto, page 1326. Schaeffer, G., 1342. Schantz, Maurice, 668, 1148. Schechner, Kurt, 1232. Schibert, Ottobrar, 634. Schlossmann, Arthur and Murschhauser, Hans, 1178. Schmidt, Bruno, 1057. Schmit, J., see Van Deventer, W., Houtman, P., Ecker, E. E. Schmuck, A., see Tchirikov, A. Schneider Fritz, 1233. Schneidewind, page 348. Schönfeld, Leo, 406. Schönfeldt, A., 649. Schreiner, O. and Brown, B. E., 343. Schröder, J., 653. Schulte-Baeuminbhaus, 171. Schulte im Hofe, A., 157, 767. Schulthess, 1313. Schulz, M., 851. Schulze, E. W., 238. Schuppli, Dr. Paul, page 167. Schuschak, D., see Pouget, I. Schwanecke, H. K., 400, 726.

646.

сепапи, F., 349. ering, 1078. erre, Paul, 417. ertorio do Monte Pereira, page 3. évcik, 1200. everin, C., 254. hantz, H. L., 792. harp, L. F., 779. haw, Roscoe H., see Eckles, C. H. hedd, O. M., see Oosthulzen, J. du P. hockney, P., 1288. liegert, 1067. ilcox, F. A., 143. il, S. N., 1143. ilmoés, Domingo L., 514. immermacher, W., see Mitscher-

coffeld, C. S., 802

eelhorst, C. v., 1244.

lich, E.

ot, Maurice see Rousseaux, Eug. rjabin, F. K., 1048. den, F. W. L., 162. us-Kantschieder, Joh., 372. ith, J. C., 1328. 1ith, G. A. and Harding, H. A., 1073.

immons, E., see Fairchiid, D.

Simonffy, Gyula A., 165, 5mon, S. V., 120.

11th, R. G., see Lodge, C. A. iith, W. G., and Crampton, O. B., 108. ow, E. C. see Peck, J. yder, A. H., 583.

lyder, W. P., 278, yder, W. P. and Burnett, E. A., 717. botta, 294. derbaum, H. G. page 1677. lichon, 627. ners, Taylor O., see Woodhouse, Ł J.

nma, U., 140. amerville, W., 271. thwick, E. P., 450.

nerville, R. C., 246

hr, 125, 128, 244. m, 280.

icer, Sanders, 1061. Tedin, Han, 495. man, W. J., 57, page 997, 1193. Teickert, Kurt, 746.

Stabilini, Carlo, 984. Stabler, Harry Snowden, 18. Stakemann, I., 984.

Sporzon, Pal Jun., 213.

Sprecher, A., 1252.

ton.

Stapf, O., 499. Stapleton, R. G., 664. Steen, J. W., see Carpenter, George H. Stephenson, J., 914. Stevens, Henry P., see Beadle, Clay-

Steuart, D. W., see Crowther, C. Stewart, R., 465. Stewart, R., see Widtsoe, J. A. and Merrill, L. A. Stockdale, F. A., see Harrison, J. B.

Stok Van der, J. E. and Van Haastert, J. A., 1259. Stolz, A. and Harms, H., 1146. Stone, E. G., 14.

Störmer, K., 243, Stoykowitch, W., 812. Street, J. B., 19. Strohmer, F., 363. Strutt, Hon. Edward Cerald, 59. Stubenrauch, A. V. and Ramsey, H. J.,

534. Stub, M. C., 144. Stupart, R. F., 463. Stutzer, O., 21. Suisse, see Mantout, Causse, Vermeit

and Cardonne. Supino, F., page 1332. Suranyi, Janos, 530. Sutton, Geo-L., 1254.

Székács, Elemér, 675. TACKE, 1360. Taiwan Government General, 1161.

Svoboda, H., 1145.

Tangl, F., 1167. Tangl and Weiser, 827. Tangl, F. and Welser, S., 606.

Taris, E., 666. Taylor, U. A. and Gould, H. P., 39. Tchirikov, Th. and Schmuck, A., 1136.

мресу, Н. А., 279, 360. Thallmayer, V., 969, 1189, 1364. Theiler, Arnold, 45. Thiele, 1017. Thompson, Alice R., see Wilcox, E. V. Thompson, S. C., see Rogers, L. A. and

Keithley, J. R. Thôni, J., 1084. Tonduz P., see Porchet F.

Tounelier, Adolfo C., 501. Toole, A. A., 285. Toth, Gyula, 804.

Tottingham, W. E. and Hoffman, C., Touchard, P. and Houmeau, A., 1358. Toyama, K., 829.

Trabut, L., 948, 1157. Tschaen, E., 533. Turnbull, E. E., 1089.

UJHELYI, E., 1359: Ulbrich, E., 1337. Ulmansky, 555.

Unstead, J. F., 1332. Urban, J., 933, 941, 509. Uveno, H., page 689. Uzel, Heinrich, 255.

VACHER, MARCEL, 1056. Vancu see Gayets.

Van Dam, 587. Van Der Stok, J. and Van Hacetert, J. A., 1259. Vander Vaeren, Julien, 338.

Van Deventer, W., Housman,

Schmit, J. and Ecker, E. E., 510. Varga, Kálmán, 26. Vargas, Eyre J., 800.

Varvare, U., 1035 Ventoux-Duclaux, 842. Ventre, Jules, 1203, 1092.

Verdié, 138. Vermeil, see Causse, Mantout; Suisse and Cardonne.

Vernieuwe, page 4524. Verrijn Stuart, C. A., 902. Vezzani, Vittorino, 702.

Vals. P. and Parous, P., 138. Vidal, J. L., 523, 944. Vieth, 1062. Villatte des Prugnes R., 1379.

Villepigue, R. 376. Vilmeria, De P., 926. Vital, Ernest, page 1471.

Voelcker, J. A., 788, 789, 790, 1260 Voglino, E., 403. Voglino, P., page 1000. Voicenet, E., 871. Voisellier, 548, 698.

Völtz, W., 1175. Voltz, Wilhelm and Paechtner, John nes, 955.

Voss, H. ,1074, 1372. Vries de, Ott see, Boekhoute. Vuigner, R., 1380. WAGNER, P., 1139.

Wagner, J. Ph., 142. Walters, J. A. T., 1255. Warburton, Cecil, 1164. Ward, Archibald and Wood, Frederic W., 273.

Warvillow, V., see Jakushkine, O. V. Webber, H. J., 492. Weinberg, M. and Julien, A., 817. Weinzieri, Th. v., 1142. Weiser, István, 155.

Weiser, S., see Tangi F. Weiss, A., 1376. Weiss, R., 856. Weisse, W. K., 540.

Weler, A. J. C., 517. Wellington, R., 796. Wellmann, Oscar, 826. Wentworth, E. N., 828.

White, G. F., 398. White, O. E., 659. Widtsoe, J. A., Stewart, R. and Mr. rill, L. A., 228. Wieckmann, F. G., 306.

Wiegert, Elisabeth, 1986. Wiegner, see Fleischmann. Wielligh, Von Cr. R., 1344. Wilberg, M., 952.

Wilces, E. V. Thompson, Alice R., S.

Iliam, C., 691. iliner, M., 241. ilsdorf, 546. ilson, E. H., 1339. ilson, James, 95. ing, J., 1371. ing, L. W., 1281. inkler, 834. inkler, W. K. see Rezek. intz, H., see Grafe E. irth, H., 1374. ise, K. S. and Minett, E. itte, H., 1144. ladyczko, S., 825. ohltmann, F., 16. oll. F. W., 836. ood, Prederick W., see Ward, Archi-

oodhead, H. G. W., see Montague,

bald.

H4 T.

ildeman, B. de, 259, 365, 369, 507,

Worthy, C. F. and Milner, R. D., 1031. Wotruba, R., 1280. Wundsch, 399. Wüstendörfer, Kurt, 979, 1080. YAMASHITA, W., 1387. Yokoi, page 331. Yunge, G., 1326. ZABALA, ROMULO, 178. Zacharewicz, Ed., 263. Zade, 117. Zailer, Victor, 738. Zeeb, 542, 596. Zessner, H. K. Freiherr V., 740. Zimmermann, A., 674. Zimmermann, H., see Reich, M. and Honcamp, F.

Woodhouse, E. J. and Somers, Taylor,

C., 662.

7 waenepoel, 541.

## III. - PLANT DISEASES.

## A) INDEX OF SUBJECTS.

ABIES spp., Chalcidids injurious to seeds Agrotis crassa, 437. of, 623. - clavis, 437. Abutilon Avicennae, 760. - segetum, 1006. Acacia confusa, Uromyces hyalosporus ypsilon, 83, 193, 321. - spp. on Atriplex hortensis, 196. - melanoxylon, Icerya purchasi on, Agrypnus fuscipes, 620. Alabama urgillacea, 360, 438, 801. Acari parasitic on Mytilaspis pomorum, Alcides excavatus, 267. p. 1004. Alder, Cuscuta europaea on, 75. Aleyrodes citri, 1114. Aceto-arsenite of copper, see Copper. Acidia heraclei, p. 1004. Almond, Cuscuta monogyna on, 75; Acridium aeruginosum, 1119. ' Oidium leucoconium on, p. 1003. Adalia bipunctata destroying Phorodon Alnus rhombifolia, Euceraphis flava on, humuli, 1222. Adoretus versutus, 620. Alternaria Brassicae, p. 860. - compressus, 620. - sp., 72, 1098. Ascidium Laricis, see Peridermium. Althaea officinalis, Puccinia Malvaceelia acuminata, 1220. urum on, 1211. eschynomene virginica, 244. Alucita sacchari, 620. rica, German East, injurious insects Amadina oryzivora, 120. in, 1405. Amaranthus retroflexus, 760. garista glycine, Chalcldid parasite of, Amblyspatha ormerodi, 1005. American gooseberry mildew, gati grandiflora, Oidium Agatidis and Sphaerotheca. Cercospore Agatidis on, 1399. Amphipyra tragopogonis, 197. gave Lespinassei, Geodemis mexicana Amphorophora rubi, 79. and Strataegus Julianus on, 938. Anagrus flaveolus, parasitic on Peregrigave rigida var. Sisalana, see Sisai. nus maidis, 1003. geniaspis sp., parasitic on Prays oleael-Anas Inzonica, 27. lus. 1312. Anastrepha ludens, 319. grilas sp., 41. - peruviana, 1311. griotes lineatus, 347; control of, 894. Andre Maire lamp-traps, 321. gromyza spp., 1003. Anona muricata, scale insects on, 1010. pyron caninum, 879. Ant, Argentine, see Iridomyrmex hurepens, 879; Epichloe typhina on, milis. 211. - Fire, see Solenopsis geminata.

see

Anthemis Cotole, 1996. trult of, 1124; Serica anthracina de-Anthoppies up., destroying Phorodon hufoliating, 1310; Sphaerotheca pannosa man, 1222. on, p. 1003; Syntomaspis druparum Anthonomas grandis, 125, 504. injurious to pips of, 623; Tetranychus pomoram, 191. Anthracnose of cotton, see Colletotri-1098. chum gossypii. - of sweet pea, see Glomerella. - of vine, see Glososporium ampelophagum. Apanteles impurus, parasitic on Anthonomus pomorum, 191. sp., parasitic on Leacoptera coffeel-Ma. 86. Aphelinus mytilaspidis, destroying Mytilaspis pomorum, p. 1004. Aphids, in California, 79; favoured by Iridomyrmex humilis, 1114; on fruittrees, destruction of, 436. Aphis, hop, see Phorodon humuli. -, woolly, see Schizoneura. Aphis avenae, 437. - bella, see Endeis. - cerasi, 1226. - cerealis, 437. - forbesi, 1114. — gossypii, 194, 1114, 1119. grossulariae, 1009. - maydis, 79. papaveris, 895. - prunifoliae, in California, 1411. - sacchari, 620. salicicola, 79. spp. on Atriplex hortensis, 196. Aphrophora spumaria, 1223. Aposphaeria Ulei, 885. Apple, Anthonomus pomorum on, 191; Atractonomus sp. on, 1009; Epetrimerus sp. on, 1009; Gloeosporium fructigenum on, p. 860; Heliothis armiger on, 194; leaf-spot of, 72; Lygueonematus moestus on, 1009; Macrophoma malorum on, p. 860; Nectria diffissima on, p. 4003; Orchestes jagi on, 1000; Phyllopertha horticola on, 1000; Pseudococcus acerls on, 1009; P. bakerl on, 1116; Rosellinia radiciperda ca, p. 1003; Schizoneura

mytilaspidis on, 87; water core of - leaf sawfiy, see Lygaeonematus. - scab, see Venturia. - weevil, see Anthonomus pomorum. Apricot, Heliothis armiger on, 194. Arachis hypogaea, see Earthnut. Aradus hystrix, see Phricodus. Arctia caja, see Chelonia. - villica, 197. Argentine ant, see Iridomyrmex. Aromia moscata, 88. Arsenate of copper, 320. - of lead, 195, 327, 762, 1113, 1114, 1118, 1227, 1228, 1309, 1310, 1311; effect of arsenic and lead against Conchylis, 782. - of sode, 320, 322. Arsenic, white, 1114. Arsenical molasses, use of against Dacus oleae, 322. Arsenite of sods, 195, 323. Artemisia sp., Phacopsora Compositarum on, 754. Arthrochodax sp., attacking Tetranychus, 1014. Artichoke, Gortyna ochracea damaging, 1308; Phorodon curduinum on, 79; Pyrameis cardui damaging, 1224, 1308. -, Jerusalem, see Jerusalem artichoke. Ascochyta Cannabis, p. 1003. - citrallina, see Mycosphaerella citrallina. - hortorum, p. 1004. - laricina, p. 1003. — pallor, 1109. — pirina, p. 1003. Ascospora Caffeae, 369. Ash and willow scale, see Chionaspis salicis. Asopia farinalis, 437. Asparagus, Cercospora Asparagi on,

imigera on, p. 1004; -- in core of

Aspidiotus destructor, 1113. Barbados, insect and fungus diseases, - camelliae, 1114. 1911-12, 1113. \_ gowdeyi, 1010. Barberry, see Berberis vulgaris. - hederae. 765, 1114, p. 163. Barium chloride, 195. - lataniae, 1114. Barley, Aelia acuminata damaging, — perniciosus, 1114. 1220; enemies of, 437; rust in cary-Aster sp., Phacopsora Compositarum on. opses of, 879; Sphenophorus discolor on, 1307. Asterina sp., 886. p. 1003. Asterolecanium bambusae, 1114. Atelocera stictica, 194. Atractonomus sp., 1009. Atriplex hortensis, insect parasites of, Aulacaspis pentagona, see Diaspis. Aulacophora spp., 1008. Avena fatua, 77, 432, 760. Beech orchestes, see Orchestes fagi. - spp., weeds of cereal crops, 1218. Beet, see Sugar-beet. Avocado, Fiorinia floriniae on, 190; Ro-Belgium, Decree for creation of Phytosellinia on, 609. pathological Service In, 66. Azurine, 1301. Bengal bean caterpillar, see Thermesia. Benzol, 201.

n. 860; selection for resistance to Puc-

Asperisportum Caricae, 1401, p. 860.

Aspidiotiphagus citrinus, parasitic on

- sop. on Atriplex hortensis, 196.

cinia Asparagi, 240.

Asphondylla prunorum, 1228.

Fiorinia floriniae, 190.

BACILLUS ACRIDIORUM, 1002.

- Melolonthae, a disease of cockchafers,

3acterial disease of flowers of pear,

- tumefaciens, 185; prohibition of im-

portation into New Zealand of plants

- Baccarinii, 1302, 1303.

Capsici, 757.

- coli, 40.

-- Ixiae, 1214.

-- Sacchari, 514.

- Vitis, 1303.

1101.

- tabificans, p. 1007.

3actefium Briosii, 1299.

- Malvacearum, 360.

- Solanacearum, 757.

affected with, 314.

· xanthochlorum, 1105.

Bean, Pythiam de Baryanum on roots of, -, French, Cladosporium Pisi on, 1298; fungi on, in Brazli, p. 860: Heliothrips phaseoli on, 439. -, haricot, Colletotrichum Lindemuthianum and Scolecotrichum melophthorum on, p. 1003.

Berberis vulgaris, relation to Puccinia

Berseem, Cuscuta aegyptiaca on, 76;

Rhabdospora alexandrina on, 1397.

Birch, Calaphis betulaecolens and Euceraphis betulae on, 79.

Blackberry, Amphorophora rabi on, 79;

as a weed, see Rubus fruticosus.

Black current, see Current, black.

Blister-mite of cotton leaves, see Erio-

Boll-weevil of cotton, see Anthonomus

- - bud moth, see Carposina.

graminis, 755.

Billbug, see Sphenophorus.

Bivadus sierricola, 325.

Blackbird, see Quiscalus.

phyes gossypii.

grandis.

- fungus, see Myriangium.

- scale, see Saissetia nigra.

Bamboo, Asterolecanium bambuene

donaspis secreta and O. inustitata

Banana, Coccus hesperidum and Chry-

somphalus aonidum on, 1114; Otoso-

sporium Musarum on, p. 860; pro-

tection of, in British Honduras, 752.

1114.

Barracott of words, Egypton, Sec. 24. pink, see Gelechia gossyniella. spotted, see Earlas fabia and E. Bopleaux mixture, 72, 186, 999, 1113, 1123, 1217, 1301, 1305, pp. 1005, 1007 · Buch Borate of soda, 323. 177.1 Borio acid, 323. Botrytis cinerea, 430. - vulgaris, 1298, 1305. Bourbon scale, see Aspidiotus destrucfor. Brachychillon populneum, Tyora sterculiae on, 201. Brachypodium pinnatum, 879; eradication of 78. Brackytripes achatinus, 1119. Bramble-leaf disease of vine, connection of falls of temperature with, 67; bacteria isolated from vines affected with, 1302; presence of endocellular fibres in vines affected with, 1207. Brazil, diseases of crops in, pp. 858-861. Bremia graminicola, 878. - Lactucae, 70. British Guiana, see Guiana, British. British Honduras, protection of bananas in, 752. Brome, false, see Brachypodium pinnatum. Bromus mollis, 879. Brotolomia meticulosa, 196 .. Brown coccid, see Cerococcus hibisci. - tail moth, see Enproctis. Bud-rot of coconuts, 40, 609. Bug, dusky, see Oxycaraenus laetus. -, red, see Dysdercus cingulatus. , shield-back, see Nezara. Runt, see Tilletia Fritici. Buprestids, 41. Butalis chempotiella, 196. Butyrospermum Parkii, Fusicladium Butyroaperest and Pestalozzia heterospora

1215; Sclerotinia Libertiana on p. 1003. Cacao, fungus diseases of, in Southern Nigeria, 1107; Laciodiplodia Theobro. mae on, 1213; Physopus rubrocinctus on, 609; Rosellinia on, 609; threadblight and Marasmus equicrinis on. 609. Caeoma Laricis, 1111. - nitens, 189. Cuesalpinia pulcherrima, Ceronema a. fricana on, 1012. Calandra oryzae, see Sitophilus orvzae Calaphis betulaecolens, 79. -- castaneae, 79. Calcium carbonate, experiments in production of chlorosis by means of, 1295. - cyanamide, for destruction of dodder, 434. California, Aphids in 79; injurious and beneficial insects of, 616, Californian thistle, see Cnicus arvensis Callimatium venustum, 267. Calocampa exoleta, 196. Calosoma calidum, parasite on Alabama argillacea, 438. Calystegia sepium, 760. Camelina sativa, Cuscuta Epilinum on. Camellia, Botrytis vulgaris on, 1298: Fiorinia theae on, 190. Camphor, Rosellinia on, bud. Camptobrichis nebulosus destroying Phorodon humuli, 1222. Canary Island broom, see Cytisus canariensis. Cane-borer, see Diathraea saccharalis. Capsella Bursa-pastoris, 432. Capsicum, Ascochyta hortorum on, p. 1004; Phytophthora Cactorum on, p. 1008; Puccinia Capsici on. 1216: shrivelling caused by Bacillus Capsici. 757. Capsus solani, see Irbisia brachyceras Caradrina superstes, 196.

Carbolic acid emulsion, 1116.

CAMBOR Plesmodienhora Brassicae on

lauliflower, Alternaria Brassicae on. p. 860; Plasmodiophora Brassicae on, 1215; Sclerotinia Libertiana on, p. 1003. ecidomyia destructor, 437. - flava, 437. pyri, 1009. elery, Acidia heraclei on, p. 1004; Cercospora Apii on, p. 860. enangiam populneum, p. 1003. entanrea cyanas, 77. ephalaria leucantha, Peronospora Cephalariae on, 611. ephalosporium Lecanii, parasitic on Saissetia nigra, 438; on scales, 609. eratitis capitata, regulations against introduction into United States, 182. · gittardii, 1404. stictica, 1404. ercospora Agatidis, 1399. Apii, p. 860. Asparagi, p. 860. beticola, p. 1007. Caricae, see Asperisporium. Clerodendri, 754. coffeicola, 369, p. 859.

gossypina, p. 859.

Melonis, p. 1007.

rosicola, p. 860.

Nicotianae, p. 859.

Mate, p. 859.

Carbon disulphide, 88, 325, 426, 1114.

Carnation, Heliothis armiger on, 194;

Heterosporium echinnlatam on, p. 860.

p. 860; Sclerotinia Libertiana on,

Castor oil, Duomites capensis on, 85;

Phytophthora parasitica on, 1106.

lats, destructive in Australia, 91.

lime-sulphur

on.

Carica Papaya, see Papaw.

Carpocapsa pomonella,

Carposina adreptella, 189.

Carva ovata, see Hickory.

Cassida spp., 196.

Casein, use in fungicides, 882.

Castilloa, Rosellinia on, 609.

p. 1003.

inefficient ovicide for, 82.

Carrot, Macrosporium Carotae

Cercospora viticola, p. 839
Cerales, disenses and peas of in 1822
1396.
Cerococcus hibisci, 1119.
Ceronema africana, 1012.

Ceroplastes cirripediformis, 1114.

— coniformis, 1010.

— floridensis, 1114.

— Ugandae, 1010.

Chaff scale, see Parlatoria pergandit.

Chalcidids, injurious to forest-tree seeds,

623; parasitic on sugarcane pests,

618.
Chalcis annulata, parasitic on Alabama argillacea, 438.
Chamaerops humilis, Florinia fioriniae on, 190.
Charaeas graminis, 437.

Charcoal, as a fungicide, 70.
Charlock, see Sinapis arvensis.
Chelonia caja, 196; fungi parasitic on larvae of, 761: Cocobacillus cajae parasitic on larvae of, 892.
Chestnut, Calaphis castaneae on, 79;
Endothia pseudoradicalis on, 887.

Chickweed, see Stellaria media.
Chilocoras bivulnerns, parasitic on Fiorinia theae, 190.

— orbus destroying Phorodon humuli, 1222.
Chinese Fungi, 754.

Cheyletus seminivorus, 81.

Chionaspis americana, 1114.

- longiloba, 1114.

trus trees, 424.

Choanephora sp., 1106.

-- salicis, 1009.

- salicis-nigrae, 1114.
- tegalensis, 620.
- unilateralis, 1010.
Chlorops taeniopus, 437.
Chlorosis, of American vines, causes determining, 1206; calcareous, of green plants, 1295; infections, of ci-

Chrysomelina, 88.
Chrysomphalus aonidum, 1114.
— dictyospermi, 1114, p. 163.
— var. vinnutilera. 165.

Carysanphana Institutions, 1814. mecothers commun on, 764; Rhing Cabpuspi catifornica, destroying Photo-asa kumili, 1222. nigra injuring, 1227. quadripunctata, attacking Tetranychus, 1014 Chrysophlyctis, see Synchytrium. Cloada, wattle, see Melampsalta. Cicinnobolas bremiphagus, 878.

Cidaria chenopodiata, 196. ...

Citrus trees, Anastrepha peruviana on, 1311; Colletotrichum gloeosporioides Septobasidium albidum on, and p. 860; infectious chlorosis of, 424;

range. Citrus red spider, see Tetranychus mytilaspidis. Cladius padi, 1309.

Parlatoria pergandii on, 1113; scales.

on, 421; see also Lemon, Lime, O-

Cladosporium carpophilum, p. 860. - cucumerinum, 1298, p. 1007. - fulvam var. violaceum, p. 1004. - Pisi, 1298.

Clerodendron sp., Cercospora Clerodendri on, 754.

Clover, red. Amblyspatha ormerodi on. 1005; mosaic disease of, 1108. Club-root, see Plasmodiophora.

Cnethocampa, see Thaumetopoea. Cnicus arvensis, 334, 760; host of Cascuta arvensis, 1402.

Coal-tar, 1114, 1227. Coccinella abdominalis destroying Phorodoa humali, 1222.

- califormica destroying Phorodon hu-

muli, 1222. - 9 - notata, attacking Tetranychus,

1014.

892.

Coccobacillus Erausquinii, parasitic on Romalea miles, 617,

- cajae, paraeltic on Chelonia caja,

Coccus hesperidum, 1114,

Codling moth, see Carpocapsa pomonella. Cocoma Laricis, 1111.

Coffea arabica, Bixadus sierricola on. Coffee, diseases and pests of, 369; fungi on, in Brazil, p. 859; Leucoptere

coffeella on, 88.

Colaspidema atra, 434, Coleophora laricella, p. 1004. - spp. on Atriplex hortensis, 196. Coleophorus stephanii, 196.

Collemboia damaging pine trees, 1125. Colletotrichum Agave, 883. - ampelinum, p. 860; f. ramicola, p. 1003. — coffeanum, р. 859.

- falcatum, p. 859. - gloeosporioides, p. 860. Gossypii, 360, 1107. - Lindemuthianum, pp. 860, 4003. - theobromicolum, 1107.

Yerbae, р. 859. Conchylis ambiguella, 186, 435, 436, 762. Contothyrium Diplodiella, p. 859. - Fackelii, p. 1003. — pirina, 72.

- Rhamni, 754. Conium maculatum, Plasmopara niver and Puccinia bullata on, 1211. Conorrhynchus luigionii, 195. Contamination of soil by toxic products of parasitic fungi, 425.

Contarinia gossypii, 438, 1113. sorghicola, 1114. Copper aceto-arsenite, 195. - arsenate, see Arsenate of copper.

- oxychloride, 999. - sulphate, treatment of seed when with, 316. Corn, see maize.

- ear worm, see Laphygma fragiperds. - worm, see Heliothis obsoleta. Coroebus bifasclatus, 41.

- undatus, 41.

Coconut, Aspidiotus destructor on, 1113; bud-rot of, 600; bud-rot due to Bacillas coli, 40; Fiorinia floriniae on, 190;

Melitomma :insulare on, 1227; Pro-

Corrosive aubilimate, 1114. Corticium javanicum, 369. - salmonicolor, 1107. \_\_ vagum, 1108. Corvus frugilegus, 89. Carynespora Mazei, 1400. Caryneum foliicolum, 72. Cossus ligniperda, 88. Cotton, Anthonomus grandis on, 125, 504; boll disease of, 609; Colletotrichum Gossypii on, 360, 1107; Contarinia gossypii on, 438, 1113; diseases of, in Southern Nigeria, 1107; Dysdercus andreae and D. delannevi on, 1113; Eriophyes gossypii on, 1226; insects injurious to (in Burma) 1119, (in Italian Somaliland) 203, (in South Africa) 194; pests of, in West Indies, 360, 438; Tetranychus on, 1014; Thielavia basicola on, 71; Uredo Gassypli and Cercospora gossypina on, p. 859. - anthracnose, Colletotrichum Gossypii. aphis, see Aphis gossypii. - boll soft rot, 1113. - - weevil, see Anthonomus grandis. - - worms, see Earias and Heliothis. - flower-bud maggot, see Contarinia gossypii. - leaf blister-mite, see Eriophyes gossypii. -- roller, see Sylepta. - scale, see Pulvinaria. - stainer, see Dysdercus. - tree, see Gossypium peruvianum. - worm, see Alabama, Cratopus punctum, 620. Grematogaster, 41. Cresol soap, 1222. Crown gall, see Bacterium tumefaciens. Crows, 89. Cryptohyllaspis liquidambaris, 1114. Cryptorrhynchus lapathi, 88. Cucumber, Cladosporium cucumerinum on, 1298; fungi on, p. 1007; Gloeosporiam lagenarium on, p. 1003; leaf-

spot due to Corynespora Mazei, 1400;

Solanophila paenulata injur 1409. Cultivation, its effect on weeds, 452 Cupric mixtures, 88. Cuprosa powder, 999. Currajong, see Brachychiton. Currant, Aphis grossulariae on, 1009; Chionaspis salicis on, 1009; Halla wavaria on, 1009. - aphis, northern, see Rhopalosiphum. -, black, Sphaerotheca mors-avae on, Cuscuta, destruction of, 434, 758; distribution by means of broom, 1112; wiptering in the vegetative state, 888. - aegyptiaca, 76. - arvensis, 758; hosts of, 1402. - Epithymum, 760, 1298, — ецгореа, 1298. Trifolii, 758. - spp., in Russia, 75. Cyanamide, for destruction of dodder, 434. Cyanide of potassium, 85, 1114. Cybocephalus nigritulus, parasitic on Fiorinia theae. 190. Cycloconium oleaginum, biology oi, 880; pp. 1497, 1501, 1502. Cycloneda sanguinea, enemy of scales, 609. Cyllo 1eda, 620.

Cyllo leda, 620.

Cyrtocantharis septemfasciata, 320.

Cytisus canariensis, as a weed in Tasmania, 433.

Dacnusa spp., parasites of leaf-mining Dipters, 1003.

Dactylopius calceolariae, 620.

obtusus, 1010.
virgatus var. madaguscariensis, 1012.
Dacus cucumarius, 1404.
oleae, 319, 322, 323, 1312, pp. 1497.

- citri, 765, p. 163.

Daedalea quercina, p. 1002.

Darlingtonia californica, Gloeosporium

Darlingtoniae and Pestalozzia on,

Darlingtoniae and Pestalozzia on, 1300.

lations for the Creation of a Phytopathological Service in Belgium, 66. Defense Agricola, international conference of, at Montevideo, 183, 1205. Degeneration of the Agen plum, 753, Dendrocygna arcuata, 27. Denmark, establishment of Phytopathological Station for inspection of plants in, 608. Deptostilus praemorsus, 1263. Dermatella Prunastri, 1110. Deutsche Gesellschaft für angewandte Entomologie, 890. Diacrisia obliqua, 1119. Diaporthe Batatis, 1104. Diaspis pentagona, 1114, p. 1004; contro! by means of Prospattella berlesei, in Italy, pp. 697-703. taxicola, 1412. Diathraea saccharalis, 128, 514. striatalis, 620. Dichocrocis punctiferalis, 1228. Diplodia sp., 1107. Diptera parasitic on fruit, 319. Disomycha mellicollis, 1120. - xanthomeloena, 1120. Dodder, see Cuscuta. Dolichonyx oryzivorus, 244. Dothichiza populea in Italy, p. 1002; Cenangium populneum, p. 1008. Dothidella Ulei, 885. Droch, a disease of vines in Lower Austria, 877. Duomites capensis, 85. Dusky cotton bug, see Oxycarenus. Dysderous andreae, 1113. - cinevilatus, 1119. - delauteyi, 360, 1113. - nigrojasciatus, 194.

Daniel Carrie 780

313.

seases, 873.

Decree for protection or reason woucles and Protectorates from plant di-

Royal, concerning introduction into

Libya of plants coming from Italy,

of Nov. 8, 1912, regarding Regu-

EARIAS CHLORANA, 88.

— jabia, 1119.

— insulana, 194, 1119.

Earthnut, Scydmaenus chevalieri injurious to, 1001; Uredo arachidis on, 1113.

Egypt, Law on Plant Protection, 751.

Egyptian cotton-bollworm, see Earias insulana.

Dysdercus superauthaus, 361.
— spp., 203.

Egyptian cotton-bollworm, see Earlas Insulana.

Eichhormia crassipes, blocking waterways in Cochin China, 333.

Elachista coffeella, see Leucoptera coffeella.

Elegant grasshopper, see Zonocerus.

Eleodes omissa borealis, 1410.
Elm, injured by road-tarring, 184; scale Insects on, 1114.
Empusa aulicae, parasitic on larvae of Chelonia caja, 761.
Emulsions, 201.

Endeis bella, 437.

Endothia parasitica, 887.

— pseudoradicalis, 887.

— virginiana, 887.

Entomology, Applied, German Society of, 890.

Epetrimerus sp., 1009.
Epichioe typhina, 1211.
Epiclinium Cumminsii, see Asperisporium Caricae.
Epicometis hirta, 763.
Epilachna 28-punckata, 1008.

Eriobotrya japonica, Phaeosphaeria Eriobotryae on, 754.
Eriophyes fraxini, 1229.
— gossypii, 360.
— similis, 1226.
— spp. on Atriplex hortensis, 196.
Eraca sativa, 334, 760.
Erysimum cheirathoides, host of Hypo-

chnus, p. 1007.
Erysiphe graminis, 437, 1100.
— polygoni, 1108.
Erythrina, see Immertel.
Bucalymathus tassellatus, 1114.

Euceraphis betales, 79.

— fava, 79.

Eugenia edulis, Uredo Cambucae on, p. 860.

Eulecanium caryae, 1114.

— corni, 1114.

— nigrofaschatum, 1114.

— quercifex, 1114.

Eulophus cemiostomatis, parasite of Leucoptera coffeella, 86.

Saphyllura olivina, 1312, p. 1501.

Eupithecia subnotata, 196.

Suproctis chrysorrhoea, States quarantined for in U. S. A., 182.

Eurytoma sp., parasitic on Rhabdophaga saliciperda, 200.

Sutelus sp., parasitic on Rhabdophaga saliciperda, 200. Suthrips fuscus and E. occidentalis, attacking Tetranychus, 1014.

?utochia fullo, 620.
?xoascus deformans, lime-sulphur for use against, 756; sprays for control of, 999.

Exothecus letifer, parasite of Leucoptera coffeella, 86.

Perrous sulphate, 1206, 1295.

Picus sp., Dactylopius virgatus var. ma-

dagascariensis on, 1012.

Field vole, see Vole.
Fig. Pseudococcus citri, Aspidiotus camelliae, and Lecaniodiaspis sp. on,
1114: Viredo Fici and Phyllocida

1114; Uredo Fici and Phyllosticta sycophila on, p. 860. inger-and-toe, see Plasmodiophora, orinia spp., 190.

orinia spp., 190.

r, Douglas, see Pseudotsuga Douglasii.

re ant, see Solenopsis geminata.

ix, Cuscuta Epilinum on, 75.
New Zealand, see Phormium.
ea-beetle, spinach, see Disonycha xanthomeloena.

, yellow-necked, see Disonycha mellicollis. 1210. Flour-paste, 1122.

Fomes semilostus, 1107.

Floria - Rupferselfenbrine

Forest-trees, insects affecting in Great Britain, 622; Chalcidids injurious to seeds of, 623; see also Chestnut, Bim,

Hornbeam, Oak, Pine, Plane, Poplar, Willow, Yew, etc. Forhin (fungicide), 1210. France, Reorganization of Service of

Phytopathological Inspection of Horticultural Produce in, 312. Fraxinus Ornus, Eriophyes fraxini de-

forming flowers of, 1229.

French Colonies and Protectorates,
decree for protection from plant

disases, 873

Fruit-fly, Peruvian, see Anastrepha.

Fruit-trees, diseases of, in Brazil, p. 860; Eleodes omissa borealis,

injurious to, 1410; Epicometis hirta attacking flowers of, 763; insect attacks on, in England, in 1912, 1009; withering of flowers of, p. 1007; see also Apple, Peach, Pear, Plum, etc. Furnagine, effect on respiration and as-

similation of host plants, 1297; treatment with lime-sulphur, 317.
Fumago vagans, 1298.
Fungicides, see Azurine, Bordeaux mix-

ture, Casein, Charcoal, Copper, Cupric mixtures, Cuprosa, Floria-Kupferseifenbrühe, Forhin, Iodides, Limesulphur, Perocid, Polysulphides, Potassium sulphide, Silver soap, Sulphur.

-, wetting power of, 612, 882.
-, commercial, comparative spraying experiments with, 1210.

Fusarium incarnatum, 425.

— niveum, 425.

rubiginosum, 1103.Solani, 1105.

trichothecioides, 1105.
 vasinfectum, 757.

— sp., 72.
— spp. on sweet peas, 1108.

e, see Asperisperium. dendriticum, see Venturia. GALIUM APARINE, 760. Garden chater, see Phyllopertha. Geletine, use in fungicides, 882. Gelechia cerealella, 437. \_\_ gossypiella, 203, 1119. spp. on Atriplex hortensis, 196. Geodemis mexicana, 938. German East Africa, injurious insects in, 1405. Gibberella moricola, p. 1003. - Sanbinetii, p. 1003. Ginseng, infection of with Thielavia basicola, 71. Gipsy moth, see Porthetria. Gladiolus Colvillii, Pseudomonas Gladioli causing soft rot of, 1214. Glandina, acclimatization in France of species destroying other Gasteropods, 192. Gloeosporium amepelophagum, p. 859. - Darlingtoniae, 1300. - fructigenum, pp. 860, 1003. - lagenarium, pp. 1003, 1007. Lupinus, 318. - Mangae, p. 860. - Mangiferae, p. 860.

- Musarum, p. 860.

- nervisequum, 74.

Glomerella rufo-maculans, 1108.

Goat moth, see Cossus ligniperda.

Glucine (insecticide), 435.

Golaz (insecticide), 435.

sulphur, 884.

Gortyna ochracea, 1308.

Goniodoma auroguttella, 196.

Gnomonia Caryae, 73.

- Psidii, p. 860.

--- ilian. 187.

scale intesting, 803. Grapholita schistaceana, 620. Grasshopper, black-spotted, see Acridium aeruginosum. - elegant, see Zonocerus, Great Britain, insects affecting forest trees in, 622. Greengage, Dermatella Prunastri on. 1110. Green oak tortrix, see Tortrix viridana Grenada, plant diseases in, in 1911-12. 609. Guava, fungi on, in Brazil, p. 860. Guiana, British, insects injurious to sugarcane in, 1407. Commosis of lemon, 1305. Gymnogaster buphthalma, 620. Gymnosporangium tremelloides, 614. HABROCYTUS PASCIATUS, parasitic on Anthonomus pomorum, 191. Habroleptis zetterstedti, destroying My tilaspis pomorum, p. 1004. Hadena atriplicis, 196. - oleracea, 196. Halia wavaria, 1009. Hawalian beet webworm, see Hymenia Gooseberry, Aphis grossulariae on, 1009; Halia wavaria on, 1009; Sphaerotheca mors-uvae on, 884, 1301; susceptibility of foliage to limemildew, American, see Sphaerotheca.

fascialis. Heliodines roesella, 196, 197. Heliothis armiger, 194, 203. - obsoleta, 117. Heliothrips phaseoli, 439. Helminthosporium gramineum, 437. Hemichionaspis aspidistrae, 421. - minor, 421; parasites of, in Peru 893. Hemileia vastatrix, 369. Hemiteles sp., parasitic on Hymenia perspectalis, 1120. Hemp, Ascochyta Cannabis on, p. 1003; Cascuta europaea on, 75. Hendersonia Rubi, 1109. Heterodera radicicola, 315, 318, 1108, 1221. - spp. on spinach, 197. Heterosporium echimulatum, p. 860. - variabile, 70.

Gossaniam peravionam, paranites of

Heres brasilitasis. Corticium salmonicolor, Fornes samifostus and Hymenochaete norie on, 107; Dothidella and Aposphaeria on, 885; Passalora Heveae causing leaf disease of, 1398. Hickory, Gnomonia Caaryae on, 73; scale insects on, 1114. Hippodamia convergens, destroying Pho-

rodon humali, 1222; destroying Tetranychus, 1014. Honduras, British, protection of bananas in, 752.

Hop, Cascuta europaea on, 75; Phorodon humuli on, 1222; Tetranychus bimaculatus on, 1122.

Hornbeam, Melampsora Carpini on, p. 1002. Hungary, fungus diseases in, in 1912,

1211. Hyalopterus pruni, 1226, p. 1004.

Hydrocyanic acid, 421; against scale insects in Spain, 765, p. 164.

Hydroecia micacea, 196.

Hylesinus oleiperda, 1312.

Hymenia fascialis, 1120.

perspectalis, 1120.

Hymenochacte noxia, 1107.

Hyoscyamus agrestis, 615.

Hypochnus Solani, 1105, p. 1006.

violaceus, pp. 1004, 1007; researches on disease caused by, 426.

Hypolycaena philippus, 440.

Hypsopygia costalis, 1406.

ICERYA PURCHASI, 621; in the Alpes-Maritimes, France, 891; in Beira Balxa, Portugal, 1013; in Zanzibar, 1010. Ichneutes reunitor destroying Cladius padi, 1309. Ilex paragnariensis, see Maté. Iliau, see Gnomonia iliau.

immortel, Rosellinia on, 609. Insecticides, see Arsenates, Arsenic, Arsenite of soda, Barium chloride, Ben-

zol, Borate of soda, Boric acid, Carbolic acid, Carbon disulphide, Coal-tar, Corrosive sublimate, Cyanide of potash, Emulsions, Giucine, Golaz, Kerosene, Nicotine, Princett, Paris green, Petroleum, Pine-ell Patar, Potassium sulphide, Poudre

glum, 66.

in, Posssium sulphide, Pounts, in lo, Prepared Locust Polson, Production, Pyrethrum, Quassia, Soda, Tobacco, Whalcoll soap, X e X, Zenoteum inspection, phytopathological, in Bel-

in France, 312.
 of plants for export from Denmark, 608.

International Union of Professional Hosticulturists, Report to Ghent Congress on Plant Pathology Service, 311.

Irbisia brachycerus, 1123. Iridomyrmex humilis, 1114. Iris, Septoria Iridis on, 1298. Iodides of copper and silver, 999. Isariopsis griscola, p. 860.

Italy, measures for prevention and control of plant diseases in, 995; new or rare plant parasites in, 1298.

Ixia maculata, Bacillus Ixiae and Pseudomonas Gladioli causing soft rot of, 1214.

JAPAN, administration for control of insects and fungi injurious to agricultural plants, 997. Japanese fruit scale, see Diaspis penta-

— plum, see Plum, Japanese.

Jassus sexnotatus, 437.

Jassus sexnotatus, 437. Jerusalem artichoke, Scierotinia Libertiana on, p. 1003.

KARITÉ, see Butyrospermum.
Kermes galliformis, 1114.
Kerosene, 201.

Koelreuteria bipinnata, Uncinula Koelreuteriae on, 754.

LABORATORY for Botanical Research and

Plant Diseases at Klosterneuburg, Austria, 877.

Lactuca Scariola, host of Cuscuta arven-

sis, 1402. Ladybird, see Cycloneda, Scymnus, Megilla. - odoratus, see Sweet pea. Lavender, diseases of, 1156. Law on agricultural pests in the Ottoman Empire, 872. - on Plant Protection in Egypt, 751. - on prevention and control of plant diseases in Italy, 995. Peregrinus Leaf-hopper, corn, see maidis. Lecaniodiaspis sp., 1114. Lecanium oleae, see Salssetia. - viride, 369, 1263. Lema cyanella, 437. - melanopa, 437. Lemon, gummosis due to Botrytis valgaris and Pythiacystis citrophthora, 1305; Icerya purchasi on. 621; Pseudococcus bakeri on, 1116; scales attacking, in Spain, 765. Lepidosuphes beckii, see Mytilaspis. - gloverii, 1114. - lascianthi, 190. Leptocorisa acuta, 27, 120. Lentosphaeria Sacchari, p. 859. Lettuce, treatment for Bremia Lactucae on, 70. Leucania lorevi, 620. - unipuncta, 620. Leucuspis riccae, 1010. Leucopis nigricornis destroying eggs of Pulvinaria camelicola, 1219. - sp., preying on Aphis salicicola, 79. Leucoptera coffeella, 86. Lillys, Decree concerning introduction of plants coming from Italy Into, 313.

Camare 334

Larix europaea, see Larch.

Lathyrus Aphaca, 759, 760.

Lasiodipiodia Theobromae, 1213.

Local, Assochyta tarteina on, p. 1063; Coleophord tarteella injuring leaves of,

p. 1004; Lophodermium laricinum

on, p. 1003; Peritterminm Laricis on,

1 300 EV

ingma fragipētāa,

Lastra major, 700

1111.

Citrus), Insecta Injurious to, 1283 Line burge see Deplostins. Limb Scholing, 72, 82, 87, 317, 756, 757 765, 884, 999, 1122, 1301. Liber films Dimaculatus, 1119. Lissorhoptus simplex, 1115. Lixus junci, 195. Locusta danina, 320. Locusts, control of : in South Africa 320; in South America, 183; in Spain 423. Loganberry, Amphorophora rubi on, 79: diseases of, 1109: Lollum, see Rye-grass. Lophodermium laricinum, p. 4003. - Pinastri, p. 1003. Lucerne, Colaspidema atra on, 434; Cus. cuta planiflora on, 75. - hay, Hypsopygia costalis injurious to, 1406. Lupin, Cascuta cupuliformis on, 75, -, white, diseases of in Sao-Paulo, 318. Lygaeonematus moestus, 1009. MACROPHOMA MALORUM, p. 860. Macrosporium Carotae, p. 860. - Solani, p. 1003. Magnolia, scale insects on, 1114. Maize, Aphis maidis on, 79; floral abnormalities of, 1097; Heliothis armiger on, 194; Laphygma fragiperda attacking, 1113; Puccinia Maydis on, p. 859; Sphenophorus discolor on. 1307. Malva passiflora, host of Tetranychus bi machlatus, 1122. Mamestra trifolii, 1121. spp. on Atriplex hortensis, 196. Mango, Dactylopius obtusus on, 1010: Gloeosporium Mangae and G. Mangiferae on, p. 860. Manihot sp., Mytilaspis coccomytibus dispar on, 1412. Manures in relation to chlorosis of Ame rican vines, 1206. Marasmius Equicrinis, 609.

Marssonia Rosae, p. 880.

-vittcole, 754.

week Actions to on 686; fungi on leaves of in Board p. 859. Matriceria ingelega, host of Cuscuta arvensis, 1402 Mangithus, legislation on plant diseases in, 421; sugarcane pests in, 620. Maya, see Munia. Mealie-cob borer, see Heliothis armiger. Mecaspis fasciatus, 196. Mediterranean fruit-fly, see Ceratitis canitata. - rocket, see Eruca sativa. Megastigmus spp., 623. Megilla maculata attacking scales, 609. Melampsalta incepta, 1011. Melampsora Carpini, p. 1002. - Periplocae, 754. Melampsoridium betulinum, 1111. Melanconium iliau, see Gnomonia iliau. Melanitis ismene, 27. Melitomma insulare, 1227. Melolontha vulgaris, 437. Melon, fungi on, p. 1007. Melophia Polygonati, 754. entha canadensis var. piperascens. Paccinia Menthae on, 1211. ercurialis annua, host of Cuscuta arvensis, 1402, etéorus ictericus, parasitic on Anthonomus pomorum, 191. sp., preying on Mamestra trifolii, 1121. icrodus inedius preying on Mamestra trifolii, 1121. icroweisea misella, parasitic on Fiorinia theae, 190. ildew, American gooseberry, Sphaerotheca mors-uvae. , powdery, of sweet pea, 1108. , susceptibility of oak to, 1395. , of vine, see Plasmopara viticola. onilta fructigena, p. 860. osaic disease et sweet pea, 1108.

oth borer, see Duomites capensis.

acuna utilis, Thermesia gemmatatis

-, of rice, see Schoenobius.

oth-traps, 193.

Pn, 1113.

pp. 697-703; Gibberella maricola, p. 1003; Ovulariopsis moricola con 267; pests of, in Madagascan, 267, Munia jagori, 27. - spp., 120. Mustard, black, see Sinapis nigra. Myagrum perjoliatum, 760, Mycosphaerella citrullina, 429. Mycterophus punicea, 196. Myrciaria Jaboticaba, Uredo Rochaei and Oidiam Rochaei on, p. 860. Myriangium Duriaei, parasitic on scales, 609. Mytilaspis beckii, 765, 1019, 1263, p. 163. – citricola beckii. - coccomytibus dispar, 1412. - gloverii, 765.

- Malberry, Chrysompheter teach

on, 1114; Diaspis pentagona

pomorum, on Canadian poplar, natural enemies of, p. 1004.
 Myzns fragariae, 1009.
 pruni-mahaleb, 1226.
 NECTARINE, Heliothis armiger on, 194.
 Nectria Bainii, 1107.

pallada, 421.

ditissima, p. 1003.
 Neolecanium cornuparvum, 1114.
 Neosigniphora nigra, parasitic on Hemichionaspis minor, 893.
 New South Wales, Xanthium ambrosioides in, 1403.

Zealand, control of weeds in, 334;
 prohibition of introduction of plants affected with crown-gall into, 314.
 — flax, see Phormium.
 Nezara viridula, 194, 609.

Nicotine, 435, 1309.
— sulphate, 1120, 1222.
Nigeria, Southera, diseases of rubber,

cacao and cotton, 1107.

Novius cardinalis, destruction of Icerya purchasi by, 891, 1013.

Nutmeg, Rosellinia on, 609.

Nyasaland, proclamation on plant pro-

6747 regulacions co de in, 875. senscionis, 1225.

ax, experiments on susceptibility to mildow, 1395; Oldium quercimum (O. alphitoides) on, 1211, p. 861; parasition of Stereum frustniosum and Dasdalea quercing on, p. 1002; scale insects and aphide on, 1114; Tortrix viridana on, in Italy, 199. cork, insects injurious to, in Portugal; 41. holm, injured by road-tarring, 184. rats, registance to Puccinia coronifera. 356; rust in caryopees et, 879; Sphenophorus discolor on, 1307. balus pugnax, 244. berea oculata, 88. donaspis secreta, 1114. - inusitata, 1114. enothera biennis, 760. idium alphitoides = O. quercinum.

- erysiphoides, p. 860. - leacoconium, p. 1003.

- quercinum, 1211, p. 861.

- Rochaei, p. 860. ligosita giraulti, perasitic on eggs of

- Agatidis, 1399.

froghopper, 1306. ave, Cycloconium oleaginam on, 880; Dacus oleae on, 319, 322, 323; in-

sects injurious to, 1312; insects, fungi and weather conditions injurious to,

in Italy, pp. 1497, 1498, 1501, 1502; Lencaspis riccae on, 1010; physiopathological observations, on stigma

of flower of, 876. · bark borer, see Hylesinus oleiperda. · fly, see Dacus oleae.

Hyponomeutid, see Prays.

- scale, see Saissetta oleae. · mcker, see Euphyllura olivina.

nion, Cuscuta obtusifiora on, 75. petrum erenatum, 620. pisiobolus graminis, p. 1004.

\*herpotrichus, 1103.

pies spp., perastife on Dipters, 1003.

or alliant borealis injurk oun m. 1410; Myttespis beckit on 1010, peets of, in Spain, pp. 163

164; Pseudococeus bakeri on, 1116 Pulvinaria camelicola on, 1219; scales on, 101; (in Spain) 765; scales aphids, etc., on, 1114. Orchestes fagi, 1000.

Orobena frumentalis, 437. Orthorrhinus kiuggi, 896. Orvetes insularis, 620. - tarandus, 620. Oryza ruftpogon, 244.

Oscinis tritici, 437. Osler, Earias chlorana and other insects on. 88.

Ottoman Empire, law on agricultural pests in, 872.

Ovulariopsis moricola, 267. Oxycarenas laetus, 194, 1119.

- sp., 203.

Oxychloride of copper, see Copper.

PACHYTYLUS SULCIOOLLIS, 320. Painted lady, see Pyrameis cardai. Palaccio (insecticide), 435. Palms, scale insects on, 1114. Pamphila dysmephila, 327.

Panicum Crus-Galli, 760.

Papaver Rhoeas, 760. Papew. Asperisporium Caricae on, 1401, p. 860; Dichocrocis punctiferalis in

Juring, 1228; Sphaerella Caricae on, 1401, p. 860.

Paraffin, 1263. Paris green, 1113, 1120, 1121. Parlatoria pergandii, 1113, 1114.

- proteus, 421.

 zizyphi, 765. Parsley, Rhizoctonia violacea on, p. 1003. Passalora Heveae, 1398.

Pasta elettrocuprifera, 999. Pea, Heliothis armiger attacking, 194; Oidium erysiphoides on, p. 860.

, sweet, diseases of, 1108. Peach, Exoascus deformans on, 758, 999: Heliothis armiger on, 194; Hyaloph

rus prunt on, p. 1004; Irbisia bracht

Oidium leucoconfirm on, p. 1003; grates and aphids on, 1114; spraying against Expascus and Monilia, 999. Peach leaf-curi, see Exouscus. Pear, Ascochyta pirina on, p. 1003; bacterial disease of flowers of, 1101; Cecidomyia pyri on, 1009; Coniothyrium Fuckelii on, p. 1003; Gloeosporium tructigenum on, pp. 860, 1003; Pseadococcus bakeri on, 1116; scales and aphids on, 1114; Taphrina bullata on, p. 1002; undetermined disease of, 998. - leaf-curling midge, see Cecidomyia pyri. Pediculoides ventricosus parasitic on Iridomyrmex humilis, 1114. Pegomyia hyosciami, 196. Pentaleus major, p. 1004. Peregrinus maidis, 1004. Peridermium Laricis, 1111. - strobi, regulations against introduction into United States, 182. Perilloides bioculata preving on Mamestra tritolii. 1121. Periploca sp., Melampsora Periplocae on, 754. Perocid (fungicide), 1210. ronospora Cephalariae, 611. effusa, 70, 197. gangliiformis, see Bremia Lactucae. rrisia tortrix, 1226. rsea gratissima, see Avocado. rsimmon, scale insects on, 1114. ravian fruit-fly, see Anastropha stalozzia paraguariensis, p. 859. Psidii, p. 860. uvicola, p. 860. of. 312. spp., 1300. - Laboratory of the National Museum troleum, crude, 1114. of Rio Janeiro, report on diseases acopsora Compositarum, 754. observed at, p. 858. 1eosphaeria Eriobotryae, 754. eidole megacephala, 1114. ldippus coloradensis preying on Manestra trifolii, 1121. laeothrips, p. 1501.

carus on 1123; Melanepsalta incepta

on, 1011; Montila fractigena and Cla-

dosporium carpophilum on, p. 860;

Phoenix reclinata, Pamp on, 327. Phoenix skipper, see Pamphila dy phila. Phoma Batatae, see Diaporthe B - Betge, p. 1007. - foeniculina, 1211. Phorocera claripennis preying on Mamestra trifolii, 1121. Phormium tenax, Fiorinia floriniae on, 190. Phorodon carduinum, 79. - hamuli, 1222, Phragmidium tuberculatam, p. Phricodus fasciatus P. hystrix. - hystrix, 1408. Phthorimaea operculella. regulations against introduction into Egypt, 751. Phyllopertha horticola, 1009. Phyllosticta Cannabis, see Ascochyta, - coffeicola, p. 859. - limitata, 72. - maculiformis, p. 1002. - Mate, p. .859. - pirina, see Conithyrium pirina. - prunicola, p. 1002. - Ribis-rabri, p. 1002. - Sacchari, p. 859. - sycophila, p. 860. Physicus sp., destroying Mytilaspis pomorum, p. 1004. Physopus rubrocinctus, 609. Phytalus smithi, 620. Phytobacter lycopersicum, 613; see also Bacterium Briosii. Phytomyza cinereifrons, 437. Phytopathological Inspection of Horticultural Produce in France, Decree concerning reorganization of Service

- Observatory in Turin, work of, p. 1000. - Section of the Central Agricultural Experiment Station in Stockholm, work of, in 1912, p. 4005.

for creation of, 66. Station in Departs, establishment hyppathology, Service of Report to Ghent Congress by International Union of Professional Harticulturists. 341. hytophthora Caetorum, p. 1003, erythroseptica, 1105. Faberi, 1107. injestans p. 1005; development of oospores, 1099. - Nicotianae, 134. - parasitica, 1106. reproduction in various species of, 1105 imple maculator, perasitic on Tortrix viridana, 199. - pomorum, parasitic on Anthonomus pomorum, 191. Pine, Scots, Lophodermium Pinastri on, p. 1003; Seira nigromaculata damaging, 1125; Sphaeropsis Ellisii on, 1217. Pineapple, Hypolycaena philippus on, 440. Pine-oil, 201. - - tar, 1114. Pink, Aphrophara spamaria on, 1223. Pink boll-worm, see Gelechia gossypiella. Pinus sylvestris, see Pine, Scots. - spp., prohibition of importation into United States, 182. Piricularia Oryzae, 244, p. 859. Plane, Gloeosporium nervisequum on, 74; injured by road-tarring, 184. Flant Pathology, see Phytopathology. Plantago lanceolata, 760. Plasmodiophora Brassicae in South Africa. 1215. Plasmopara nivea, 1211. - viticola, 1210, p. 850; conditions favourable to development of, 1209; development and control of, 427; entry of spores into vine leaves, 877; germination of winter spores of, 610;

enced, Hangary, 1208 sprayer for county di, 909; weather conditions in favorating outbreak of 68. Platygaster ap., parasitic on Rhabdo. phage salieiperda, 200. Plum, animal passesites of, in Provence 1226 : Heliothis armiger on, 194 : Phyllosticta prunicola on, p. 1002; Puccinia: Proni-spinosae on. p. 860; P doseptoria: assuriensis on, 878; ...? also, Prone. -, Agen, degeneration of, 753. -, Japanese, Glocosporium fructigenam and Monilia fructigena on, p. 860. Podisus, maculiventris, destroying Hymenia perspectalis, 1120. Polistes annularis, parasitic on Alabama argillacea, 360, 438. - bellicosus, parasitic on Alabama argillacea, 438. - fuscatus instabilis, parasitic on Alabama argillacea, 438. Poilen, germination of, effect of fungicides, etc., on, 1296. Polychrosis botrana, 186, 435. Polygonatum officinale, Melophia Polygonati on, 754. Polygonum aviculare, host of Cuscula arvensis, 1402. Polyporus lignosus, see Fomes semitostus. Polysulphides, alkaline, 1301. -, of lime and barium, 999. Pomelo, Pseudococcus bakeri on, 1116. Pontederina crassipes, 120. Poplar. Cuscuta europea on, 75. , Canadian, Dothichiza popalea of. u. 1002; Mytilaspis pomorum of. p. 1004. -, white, Rhabdophaga saliciperda, on 200. Populus alba, see Poplar, white. — canadensis, see Poplar, Canadian Porthetria dispar, States quarantined lo

in U. S. A., 182.

Potassium sulphide; 1014. Potato, Cuscuta obtusifiora on, 75; le

sistation on introduction into Western Anstralia, 906, 1005; prohibition of importation into United States from certain countries, 182; regulation as to importation into Egypt, 751; restriction of Importation into Southern Rhodesia, 315; rot caused by Phytophthora erythroseptica, 1105; work on diseases of, in Sweden in 1912. on. pp. 1005, 1006. otato, sweet, see Sweet potato. Poudre Milo (Insecticide), 435. Prays olegellas, 1312. Prepared Locust Poison, 320, Priophorus padi, see Cladius. Proclamation on plant protection in Nya-

saland, 874. Prodenine, a liquid for use in mothtraps, 193. Promecotheca camingii, 764. Prospaltella aurantii, parasitic on Fiorinia fioriniae, 100.

- berlesei, control of Diaspis pentagona by, in Italy, pp. 697-703. - peraviana, parasitic on Hemichio-

naspis minor, 893.

Prune, Aphis prunifoliae on, 1411; Serica anthracina defoliating, 1310. Pranus, animal parasites of, 1226. - trifolia, see Plum, Japanese. Pseudococcus aceris, 1009.

— calceolariae, 1114. - citri, 1114, 1116. - nicotianae, 1007. seadomonas Gladioli, 1214,

seudoperonospora cabensis, 1210. <sup>2</sup>seudopeziza tracheiphila, 877, 1304. seudotsnga Douglasii, Sphaeropsis Ellisii producing die-back of, 1217. - sp., Chalcidide injurious to seeds of,

**623**. <sup>o</sup>sidium, Anastrepha ludens on fruits of, 319. Psylia oleae, see Euphyllura olivina. Pterophorus pterodactylus, 196.

- bakeri, 1116.

Paccinia Asparagi, 240. - bullata. 1211.

- Malvacearum, 1211. - Maydis, p. 859. - Menthae, 1211. - Pruni-spinosae, p. 860.

Paccinia Capsici, 1216.

- glumarum, 1100, p. 860.

- graminis 437, 1100, 1211, p. 860

relation of Berberis vulgaris to, 755.

- coronifera, 356.

- Psidii, p. 860.

1409.

Pucciniopsis Caricae, see Asperisporium. Pulvinaria camelicola, 1219. - cupaniae, 1114. - jacksoni, 194. - vitis, 1114.

Pumpkin, beetles attacking, 1008; He-

Pythiam de Baryanum, p. 1003.

argillacea, 438.

coccophila.

michionaspis minor on, 421; Scolecotricham melophthorum on, p. 1003; Solanophila paenulata injurious to, Pyrameis cadui, 1224, 1308. Pyrethrum powder, 435. Pythiacystis citrophthora, 1305.

ted States of America, 182. Quassia, 1222. Quercus Itex, see Oak, bolm. - suber, see Oak, cork. Quince, Glocosporium fructigénum on, p. 860.

RABBITS, injurious in New Zealand, 334.

QUARANTINE LAW, National, of the Uni-

Ouiscalus fortirostris, eating Alabama

Romularia areola, 1107. Raphanus Raphanistrum, 77. Rapistrum rugosum, 760. Raspberry, diseases of, 1109. Rats, 27. Ratin for control of voles, 897. Red-headed lungus, see Sphaerostilbe

Red spider, see Tetranychus. Regulation of Nov. 12, 1912, on transport of vegetables in Uruguay, 422.

Rhabdophaga saliciperda, 200.

Zealand: 334; parastine of, 189 See diagram alaxandring 1367. aus eo., Coniochyrium Rhamai on Rumex crispus, 432, 760; host of Cus-Riche berbirostris, 1227. cuta arvensis, 1402. mgra, 1227. - pratensis, host of Cuscuta arvensis Rhizocionia Solani, p. 100 ... 1402. Russia, East, contribution to mycological violacea, see Hypochnus violaceus. Rhodesia, Southern, prohibition of imflora of, 878. portation of potatoes infested with He-Rust, black, see Puccinia graminis berodera radicicola, 315. - resistance in wheat, connection of Rhadoseptoria assuriensis, 878. acidity of cell sap with, 881. Rusts occurring in caryopses of Grami-Rhopalosiphum brittenil, 1009. Rhynchites, p. 1504. neae, 879. Ribes, see Gooseberry, Current. Rye, Puccinia graminis on, 1211. Rice, diseases of, in Java, 120; diseases Rye-grass, Cuscuta Epilinum on, 75. and pests of, in the Philippines, 27; enemies of, in Louisiana, 244; Piri-SAISSETIA NIGRA, 360, 438, 1010. cularia Oryzae on, 244, p. 859; Scle-- oleae, 765, 1010, 1114, 1312; treatrottam Oryzae on, 1212. ment with lime-sulphur against, 317. - bird, see Dolichonyx. Salix alba, see Willow. - field weeds, control of, 188. Salvia pratensis, 432, 760. - mildew, see Pyricularia. Sarcophaga trivittata, parasitic on Alawater weevil, see Lissorhoptus. bama argillacea, 438. Rio Janeiro, Phytopathological Labora-Sarrothripa revayana, 88, tory of National Museum, p. 858. Scale, black, see Saissetia nigra. -, --, of olive, see Saissetia oleae. Road-tarring, effect of on trees, 184. -. Japanese fruit, see Diaspis penta-Romalea miles, 617. Roncet, see Brambis-leal. gona. Scales, favoured by Iridomyrmez hami-Rook, see Corvus fragilegus. lis, 1114; of the genus Fiorinia in the Root-disease, see Rosellinia. United States, 190; Injurious to orange - excretions, part played in absorbing and lemon in Spain, 765; notes on iron from calcareous soils, 1295. 1010. - rot of sweet poa, see Thielavia basicola and Corticium vagum.

also Blackberry.

Scaptomyza flaveola, 1003. Scarabeids injurious to sugar cane in Rose, Aphrophora spamaria on, 1223; Mauritius, 620. fungi on, in Brazil, p. 860; Heliothis Schistocerca paranensis, 183; internaarmiger on, 1964; Orthorrhinus kluggi tional control of in South America, on, 896; Sphaerotheca pannosa on. 1205. p. 1003. Schizoneura lanigera, 324, 334, 1124. Rosellinia radiciperda, p. 1003. p. 1004. - sp., 609. Schoenobius punctellus, 27, 120. loters renner of Vine, see Pseudope-Scirpus lacustris, host of Sphenophorus zin trecheiphila. discolor, 1307. - sylvaticus, host of Heterodera radi countains, importation of vines into, 1393 cicola, 1221. Sclerotinia Libertiana, 425, 1108, p. 1003. Rubber, Para, see Hevea brasiliensis. Rubas trattopsas, as a weed in New - sclerotiorum, 1005.

Sclerotium Oryzas, 1212. Scolecuthricum Caricae, see Asperisporiam." - melophthorum, p. 1003. Scolothrips sermaculatus, attacking Tetranychus: 1014 Scots pine, see Pine, Scots Scydmaenus chevalieri, 1001. Seymous sp. attacking scales; 609. Seira nigromaculata, 1125. Senecio vernalist 899. Septobasidium albidum, p. 860. Septoria ampelina, p. 860. - graminum, 425. - Iridis, 1298." - Lycopersici, p. 860.

Serica anthracina, 1310. Sesame, Phricodus hystrix attacking, 1408: Phytophthora parasitica on, 1106 Sesamia nonagrioides, 620. Sesbania macrocarpa, 244. Sesia sp., 88.

- verticillata, host of Cuscuta arvensis, 1402. Shield-back bug, see Nezara. - scale fungus, see Cephalosporium

Setaria italica, 760.

Lecanii.

oda, 1301.

1402 ...

Signiphora tutea, parasitic on Hemichionaspis minor, 893. Silver soap emulsion: 999. Sinapis arvensis, 77, 760, 1000; host of

· nigra,334. . sal, anthracnose due to Colletotrichum Agave, 883. tophilus oryzae, 27, 437.

Cuscuta arvensis. 1402.

oda-lye and resin wash, 1263. olanophila paenulata, 1409: olanum nigrum, 760; host of Cuscuta arvensis, 1402...

olenopsis geminata, 1114. onchus arvensis, host of Hypochnus,

P. 1007;

196. oleraceus; hosesof Cuscuta arvensis,

Sorbus app., specialized parasition of Gymnosporangium on, 614; Chalddid injurious to seeds of, 623. Sorghum midge, see Contarinia sor ghicola. Sorghum halepense, 760.

Sowthistle, see Souchus. Spain, control of locusts, in, 423; scale insects injurious to orange and lemon. in, 765. Specialized parasitism in the Uredinese,

614. Spergula, see Spurrey. Spermatophthora hornigii, 196. Sphaerella Caricae, 1491, p. 860. - Coffete, p. 859. Sphaerococcus bambusae, 620.

Sphaeropsis Ellisii, 1217.

- pannosa, pp: 860, 1003.

- malorum, 72. Sphaerostilbe coccophila, parasitic on Fiorinia floriniae: 190: on scales, 609. Sphaerotheca mors-avae, control of, in Russia, 1301; lime-sulphur treatment for, 884.

Sphenophorus discolor, 1307. Spicaria colorans, 1107. - farinosa var. verticilloides, parasitic on Tineid larvae, 186.

Spinach, enemies of, 197; treatment for Peronospora effusa and Heterosporium

variabile on, 70. - flea-beetle, see Disonycha xanthomeloena. Spodoptera mauritia, 27, 620.

Sporidesmum putrefaciens, p. 1007.

Sporotrichum globuliferum, parasitic on

larvae of Chelonia caja, 761. Spotted beet webworm, see Hymenia perspectalis. - boll-worm, see Earias fabia and E. insulana.

Spraying of peaches and vines, 999: Spurrey, Cuscuta Epitinum on, 75. Stefaniella spp. on Atriplex hortensis,

Stellaria media, host of Hypochnus, p. 1007.

humuli, 1222; destroying Tetranychus, 1014. Stietis Panizzei, p. 4501. Stilbum flavidam, p. 859. Stink-bug, see Nezara, Atelocera. Strataegus Julianus, 938. Strawberry, Aphis forbest on, 1114; Cladius padi attacking, 1309. aphis, delicate, see Myzus fragariae. Staw blight of cereals, see Ophiobolus. Streak-disease of sweet pea, 1108. Striped beet caterpillar, see Mamestra tritolii. Sugar-beet, Aphis papaveris on, 895; Conorrhynchus luigionii and Lixus junci on, 195; Hymenia perspectalis damaging, 1120; Mamestra trifolii on, 1121; work on diseases of, in Sweden in 1912, p. 1007. Sugarcane, Diathraea saccharalis on. 128, 514; fungi on, in Brazil, p. 859; iliau disease of, 187; insects injurious to, in British Guiana, 1407; parasites of insect posts of, 618; Phytalus smithi and other insects injurious to, 820; Pseudococcus calceolariae and Aphis gossypii on, 1114; resistance to diseases, 514; Sphenophorus discolor on, 1307. - borer, see Diathraea saccharalis. - mealy bug, see Pseudococcus calceolariae. Sulphur, 1114; as a fungicide, 70. Sulphuric acid, spraying for weeds with. 12182 27 7.1.3 Susceptibility to disease, factors affecting, 1100. Sweet gum, Gryptophyllaspis liquidambaris on 1114. - pea, diseases of, 1108. -potato, day not caused by Diaporthe Batatis, 1104.

edinell, isee Phricodus

all the second

Sterculia diversifatio, see Brechychitan

Stereum frustalosam, p. 1002.

Steriemelocystis nigra, 428. Stethorus panctum destroying Phorodon

> TANGERINE, Icerya purchasi on, 621. Taphrina bullata, p. 1002. Taraxacam officinale, harbouring Eni. cometis hirta, 763. Tasmania, obligatory destruction of An. themis Cotula, 1096. Taxus baccata, see Yew. Tea. Fiorinia theae and F. florineae on. 190. Telenomus sp. parasitic on Alabama argillacea, 438.

Sylepta derogata, 194, 1119.

Syntomaspis druparum, 623.

Tetraneura lucifuga, 620.

titis and Dacus, 1404.

myrmex humilis, 1114.

Thermesia gemmatalis, 1113.

Thielaviopsis paradóxa, p. 859.

Thips, see Physopus.

Thyridaria tarda, 1107.

mex humilis, 1114.

Tilletia Tritici, 316.

Thrips tabaci, 326.

Thaumetopoea herculeana, 619.

- mytilaspidis, 87.

telarius, 1014.

vensis.

Tetranychus bimaculatus, 1014, 1122.

Tetrastichus giffardii, parasite ol Cera-

Theridium tepidarium destroying Irido-

Thielavia basicola, 71, 520, 805, 1108.

Thistle, Californian, see Cnicus ar-

Thyrsocera cineta destroying Iridomyr-

Tobacco, Agrotis segetum on, 1006;

Cercospora Nicatianae on, p. 859;

Cuscuta europea on, 75; Pseudococ

cus nicotianae on, 1007; Sterigma

tocystis nigra on, 428; Thielavia be-

sicola on, 71, 520, 805; Thrips 16

humuli, 1222.

muli, 1222.

Synchytrium endobioticum, p. 1006; regulations against introduction into

United States, 182; into Egypt, 751.

Syrphus americanus destroying Phorodon

- opinator destroying Pharodon hu-

baci on, 326; varieties resistant to Thielavia basicola, 520, 805. Tobacco dust, : 1114. - hornworms, 1118. - waste, 1222. - worm, see Heliothis armiger. Tomato, Cladosporium fulvum var. violaceum on, p. 1004; fruit rot of, caused by Phytobacter Lycopersicum, 613: Macrosporium Solani p. 1003; Mycosphaerella citrallina on, 429; rot of, caused by Bacterium Briosii, 1299; Septoria Lycopersici on, p. 860. - worm, see Heliothis armiger and H. obsoleta. Tor-grass, see Brachypodium pinnatum. Tortrix viridana, 41, 199. Torymus tipulariarum, parasitic Rhabdophaga saliciperda, 200. Toameyella turgida, 1114. Traps for Dacus oleae, 323. Trichagramma pretiosa, parasitic on Alabama argillacea, 438. Tridyminarum sp., parasitic on Rhabdophaga saliciperda, 200. Trifolium alexandrinum, see Berseem. Trioza atriplicis. 196. Triphleps insidiosus, destroying Phorodon humuli, 1222; destroying Tetranychus, 1014. - tristicolor preying on Tetranychus telarius, 1122. rocharocephalus strangulatus, 620, ryphan lucidulus destroying Cladius padi, 1309. suga spp, Chalcidids injurious to seeds of, 623. urin Phytopathological Observatory work of, p. 1000. urnip moth, see Agrotis segetum. ylenchus devastator, 437, 1005. - oryzae, 120. yroglyphid mites parasitized by Cheylefus seminivorus, 81.

NCINULA KOELRBUTERIAE, 754.

inited States of America, genus Fio-

Law, 182. Uredo arachidis, 1113. - Cambucae, p. 860. - Fict, p. 860. - Gossypii, 1107, p. 859. - Rochaei, p. 860. Uroloncha everetti, 27. Uromyces appendiculatus, p. 860. - Betae, p. 1007. - hyalosporus, 431. Urtica: doica, host of Cuscuta arvensis, Uruguay, regulation on transport of vegetables in, 422. Ustilago Jensenii, 437. — Tritici, p. 860. virens, 27. V-MOTH, see Halia. Vegetables, diseases of, in Brazil, p. 860; observations on diseases of. in Sweden in 1912, p. 1007. Venturia inaequalis, 334; lime-sulphur against, 756. Verticillium puparum, parasitic on Anthonomus pomorum, 191. Vesperus xatharti, 328. Vicia Cracca, 759, 760: . - hirta, 759, 760. -- segetalis, 759, 760: · Vine, Bacillus Vitis on, 1303; Botrytis cinerea on, 430; bramble-leaf disease of, see Bramble-leaf; Colletotrichum ampelinum I. ramicola on, p: 1003; diseases of, in Brazil, p. 859; effet of fungicides, insecticides and insectlfuges on germination of pollen of, 1296; Marssonia viticola on, 754; Nysius senecionis damaging, 1225; pathological signaficance of endocellular fibres in tissues of; 1394; Pseadopeziza tracheiphila on, 877; resistance to phylloxera, 881; Roter Brenner of, caused by Pseudo-

peziza, 1304; Vesperus xatharti on,

- curculio, see Orthorrhinus.

.328.

rinia in, 190 National Quarter

Vice mildey, see Plasmopara. moth, see Agarista glycine, also Con-

chylis and Polychrosis. - weevil see Orthorrhinus.

Vines, importation into Roumania, 1393. - American, causes determining chlorosis of, 1206.

Vitis vinifera, see Vine. Vole, field, control of, in France, 897;

in Italy, 329. WALNUT MEALY BUG, see Pseudococcus

bakeri. Wart-disease of potatoes, see Synchytrium.

Water core of apples, 1098. Watermelon, Eleodes omissa borealis

injurious to, 1410; Solanophila paenulata injurious to, 1409.

Wattle cicada, see Melampsalta.

Weather conditions determining out-

breaks of Plasmopara viticola, 68.

Webworm, Hawaiian beet, see Hyme-

nia fascialis.

-, spotted beet, see Hymenia perspectabis.

Weeds, germination of seeds of, 77, 432, -759, 760, 1000; see also Amaranthus, Anthemis, Avena, Brachypodium,

etc, etc. - of rice fields, control of, 188; in

Louisiana, 244. Wenvil, vine, see Orthorrhinus.

Western Australia, legislation on introduction of potatoes, 996, 1095.

West Indies, cotton pests and diseases in. 360, 438.

Wetting sowers of stungfoldes, 612, 882 Whale-off soap, \$1120, 1121, 1222. Wheat, Aclia acuminata damaging, 1220

diseases of, in Brazil, p. 860; effect of time of sowing on susceptibility to Tilletia Tritici, 816; Gibberella San-

binetii en, .p. 4003; Ophiobolus graminis on, p. 1904; rust in caryonses of, \$79; rust resistance of, 881.

Sphenophorus discolor on, 1307. straw blight caused by Ophiobolus herpotrichus, 1103; susceptibility to

disease, 1100; Tyroglyphid mites attacking grain of, 81. White lucin, see Lupin, white.

White-pine blister rust, see Peridermium strobi. Willow, Aphls salicicola on, 79; Rhab.

dophaga . saliciperda on, 200; scales and aphids on, 1114. Wireworm, see Agrictes. Woolly aphis, see Schizoneura.

X E X (insecticide), 435. Xanthium ambrosioides in New South

Wales, 1403.

YELLOW-NECKED PLEE-BEETLE, see Disonycha mellicollis. Yew, Diaspis taxicola on, 1412.

ZALOPHOTRHIX MIRUM, parasitic on Saissetia nigra, 438. Zenoleum powder, 1114.

Zeuzera pyrina, 1312. Zonecerus elegans, 198.

## B) INDEX OF AUTHORS.

ACCARDI, SALVATORB, 1206. Altheimer, 1400. Auchinleck, Gilbert, 609. Averna-Saccà, Rosario, 1216.

BALLOU, H. A., 438. Bancroft, C. K., 1398. Barber, T. C. see Newell, Wilmon. Barker, B. T. P., 1101. Barsali, E., 184. Beauverie, J., 879. Berlese, Antonio, page 697. Berthault, Pierre, 1213. Black, R. A., 433, 1096. Blanc, C. R. see Picard F. Bodkin, G. E., 1407. Bondar, Gregorio, 318, 440. Borthwick, A. W. and Wilson Malcolm, 1111. Bourilly, A., 1308. Boyer, Jacques, 192. Bresaoia, M., 758. Bretschneider, Arthur, 1210. Brooks, Charles and De Merritt, Margaret, 72. Brooks, F. F. and Price, S. R., 429. Brown, Nellie A. see Smith, Erwin F.,

Cadoret, Arthur, 324.
Catabrest, G., 317.
Carle, G., 320.
Catoni, Giulto, 191.
Cecconi, Giacomo, 199, 200.
Chapelie, 322.
Chatton, Edouard, 1002.
Chittenden, F. H., 1120.
Chrestian, J. and Maire, R., 1397.

Cockayne, A. H., 189.
Collinge, Walter E., 1125.
Comes, Orazio, 881.
Comte, A., 619.
Cook, A. J., 1117.
Cotte, J., 1226.
Cullen, Hugo and Maggio, Carlos F., 617.

DANTONY, E. see VERMOREL, V. Dastur. Jeangir Fardunji, 1106. Davidson, W. M., 79. Distant, W. L., 1408. Dowson, W. J., 1110.

EMMEREZ (d') de CHARMOY, D., 620. Eriksson, Jacob, 426, page 1005. Essig, E. O., 616, 1310, 1410, 1411. Ewing, H. E., 81, 87.

FABIAN, MIKLÓS, 763.
Faes, H., 427, 435.
Fawcett, H. S., 1305.
Feytaud, J., 88.
Field, Ethel C., see Harter, L. L.
Fletcher, T. Bainbrigge, see Woodhouse,
E. Y.
Foex, E., 1399.
Fonzes-Diacon, H., 612.
French, C., 80.
French, C. (Junr.), 201, 896.
Froggatt, Walter W., 1011.
Fron, 186.

Gahan, A. B., 1003. Garino-Canina, E., 1296. Ghetti, G., 329. Gorni, O and Passalacqua, P., 323. Cast, Bela: 1008 Castro, Dell); Glácomo, 1312. Galader, Ph. Glácomo, 172.

Gümbel, Hermann, 77. Gussow, H. T., 755.

HARTER, L. L., and FIELD, ETHEL C., 1104.

Hewitt, Thomas, 1124. Heycock, W. B., 321. Hood, J. Douglas, 439. Hutchinson, Henry P., 78.

IHERING (VON), RODOLPHO, 86. Ippolito (D'), G., 1402.

Istvánffi (de), Gy. and Pálinkás, Gy., 1208.

Jablonowsky, J., 89. Jaczewski (De), A., 1301. Jarvis, E., 1008, 1228. Jemmett, C. W., 622.

Jones, C. R., 764.

Karel, M., 894. Keilin, D., 319.

Kelly, Albert, 327.

Klebahn, H., 1300.

Koenig, F., 421.

Larrongue, G., 430. Larronow, D., 75. · ·

Lavergne, Gaston, 192. Lemoigne, M. see Mazé, P. and Ruot,

M.

Lendner, A., 866. Leonardi, G., 1007.

Le Souet, A. L., 91.

Linsbauer, L., 877.

Lyon M. L., 187.

MacDougall, R. Stewart, 100. Macfie, J. W. Scott, 1012.

Maggio, Carlos F. see Cullen, Hugo. Mainden, J. H., 1403.

Mainquier, A. and Mottlé, A., 895 Malenotti, Ettore, 1219.

Malzeff, A. J., 615.

Mameli, Eva, 1227.

Manns, Thos. F. see Taubenhaus, J. J. Marre, E., 756.

Marsh, H. O., 1121. Maublanc, A. see Griffon, Ed. Maublanc, André, page 858, 1401.

Mayné, R., 325. Mazé, P., Ruot, M. see Lemoigne, M.,

1295. Mc Culloch, Lucia see Smith, Erwin F., 185.

Mc Gregor, E. A., 1014. Mendes, C., 1013.

Mengel, O., 1209.

Merritt (De), Margaret see Brooks.

Merritt (De), Margaret see Brook
Charles, 73.
Miège, 1097.

Miyake, Ichiro, 754.

Modonesi, M., 1112.

Moitlé, A. see Malequin, A.

Moore, W., 194.
Molinas, E., 1223.

Moreau, L. and Vinet, E., 762. Montemartini, L., 1298, 1303. Morettini, A., 888.

Morgan, A. C. and Parman, D. C.. 1118.

Morstatt, H., 1405.
Müller-Thurgau, Hermann, 1304.

Munerati, O., 316, 432. Munerati, O. and Zapparoli, T. V., 759.

760, 1000.

Murphy, Paul A. see Pethybridge. George H.

Nacumore, N., 878.

Navell, Wilmon and Barber, T. C., 1114

Newstead, R., 1010. Nicolas, G., 1297.

Noel, Paul, 196, 197, 437. Novelli, N., 188.

OBERSTEIN, O., 1221. O' Gara, P. J., 1098.

PALINKAS, GY. see ISTVANFFI (DE), Sirena, Corteo Simone, 1229. Smet (de), A., 311. Gy. Pantanelli, E., 425, 999. Smith, Erwin F., Brown, Nellie A. and Parker, William B., 1122. 1222. Mc Culloch, Lucia, 185. Parman, D. C. see Morgan, A. C. Smith, Harry S., 1307. Passalacqua, P. see Gorni, O. 323. Solanet, L. E., 434. Passy, Pierre, 998. Splnks, G. T., 1100. Pastre, Jules, 761. Stefani (De), Perez Teodosio. 621. Pater, B., 1211. Pavarino, L., 1299, 1302. TAUBENHAUS, J. J. and MANNS, THOS. F. Pavarino, L., and Turconi, M., 757. 1108. Perkins, R. C. L., 618. Theobald, F. V., 1009. Pethybridge, George H., 1105. Török, Elemér, 326. Pethybridge, George H., and Murphy, Townsend, Charles H. T., 1311. Paul A., 1099. Trabut, 424. Petit, A., 436. Trabut, L., 76. Petri, L., 67, 876, 880, 887, 1217, 1394. Tschaen, E., 1224, 1308. Picard., F., 761, 1225. Tucker, E. S., 1115. Picard, F., and Blanc, G. R., 892. Turconi, M. see Pavarino. Pole Evans, I. B., 1215. Price, S. R. see Brooks, F. T. URICH, F. W., 1306. RABATÉ, E., 753, 1218. VAILE, R. S., 1116. Rapaics, Reymund, 428. Vayssière, P., 1412. Ravaz, L. and Verge, G., 610. Verge, G. see Ravaz, L. Reed, Carlos S., 1409. Vermeil, P., 1220. Riehm, E., 1396. Vermorel, V. and Dantony, E., 612, Rivera, Vincenzo, 1395. 882. Rohwer, S. A., 623. Vidal, E., 1308. Rosenbaum, J., 71. Vilmorin (de), Philippe, 192. Rossi, Romolo, 195. Vincens, F., 611. Ruot, M. see Mazé, P. and Lemoigne, M. Vinet, E. see Moreau, L. Rust, E. W., 893. Voges, Ernst, 1103.

SAFRO, V: 1., 82.

Sasscer, E. R., 190.

Sbrozzi, Dino, 1406.

Severini, G., 1214.

Shroff, K. D., 1119. Silvestri, F., 1404.

Schneider, Numa, 70.

Sawada, Kaneyoshi, 431.

Shaw, F. J. F., 883, 1212.

S voly, F., . 68.

884.

Salas (De) y Amat, Leopoldo, 765.

Salmon, E. S. and Wright, C. W. B.,

Voglino, P., 74, page 4000.

Vuillet, A., 891, 1001, 1227, 1309.

WATERHOUSE, CHARLES O., 1004.

Wilson, Malcolm see Borthwick, A. W.

Woodhouse, E. Y. and Fletcher, T. Bain-

Wright, C. W. B. see Salmon, E. S.

ZAPPAROLI, T. V. see Munerati, O.

Vosler, E. J., 1123.

Wolf, Frederick A., 73.

brigge, 193. ·

Wüst, 889.